SELECTION OF ARMY PERSONNEL: DEVELOPMENT OF THE DSP

CHARLES S. MYERS, M D CAMB, F R S

THE Directorate of Selection of Personnel was instituted in the British Army in the early summer of 1941, under the immediate control of the Adjutant-General. Its work had been foreshadowed about a year before, when the Army Council decided to introduce selection tests into units receiving intakes of recruits. This initial phase was entrusted to the director of military training, who appointed as his adviser a civilian (later aided by 3 assistants) to devise and to arrange for the application of a 20 min. test in the various training regiments for artillery, engineers, ASC, armoured corps, infantry, &c., throughout the country. Separate, but similar, arrangements were also in force for the testing of recruits in training regiments for anti-aircraft duties. One great disadvantage of this scheme was the length of time needed to transfer an unsuitably allocated recruit from one arm of the Service to another and to procure the discharge of a recruit found unfit, owing to lack of intelligence or mental instability, for any kind of Army work. In contrast to the practice obtaining in the Navy and in the Royal Air Force, it had been laid down by Parliament that no man could be deemed enlisted until he had been posted by the Ministry of Labour to one arm of the Service (and to its training regiment), after his attendance at one of that Ministry's recruiting centres. The DSP was provided with a staff of administrative and technically qualified men and women of military rank to conduct its work.

Its institution followed the receipt by the War Office of a memorandum on the selection and allocation of personnel prepared by one of the command psychiatrists of the Army medical services, and of a report from a committee of three psychologists appointed to advise him by the Adjutant-General. Both the memo and the report had urged that the new directorate be established; that a non-verbal test of intelligence be given to every recruit on his medical examination at the recruiting centres; that mobilisation depots be established throughout the country, to which recruits should first be sent after their attendance at the recruiting centres, and at which a more detailed psychological and psychiatric examination could be carried out *before* their allocation to any arm of the Service; that a permanent staff of non-commissioned officers be provided in the new directorate to carry out the routine application of the necessary tests; and that the directorate should be in the closest possible relation not only with the directorate of the Army medical services (concerned with the problems of Army *health*), but also with the directorates of recruiting and mobilisation and of military training (concerned with the problems of Army *personnel*).

* * *

The first work of the DSP was to select NCOs suitable for the routine work of applying selection tests. Most of those chosen had been teachers in civil life and were trained by a staff of commissioned officers who were qualified and experienced in vocational psychology. The next step was to introduce a well-tried non-verbal test of intelligence at the recruiting centres. By January, 1942, 85% of all intakes were receiving this test in a shortened form; and by March every recruit for the Army (save in Northern Ireland), man or woman, was being thus tested. A card was prepared for each recruit on which all information about him that related to personnel problems was entered, and the Hollerith system was adopted for future analysis of the data thus recorded. A "job analysis" of the numerous occupations in the Army was also begun, the special mental and physical qualities being systematically ascertained which were required by each.

Towards the end of 1941, an experiment was begun of using an extended selection procedure in training regiments. Here men underwent tests which assessed mainly clerical, mechanical and signalling aptitudes, and also took a verbal test of intelligence. The recruits filled up a form giving their past educational and other histories, interests and hobbies; and they were sympathetically interviewed by commissioned (usually regimental) officers who had been already trained for this important work. Recruits of undesirably low intelligence or of doubtfully adequate mental stability were referred by these interviewing officers to the local Army psychiatrist. The job analysis of Army occupations made it possible to recommend each recruit, thus tested, interviewed, and considered in the light of his past education and employment and of his present interests and hobbies, for suitable employment in his arm. Potential "tradesmen" and men clearly better suited to other arms were able to be transferred early in their Army careers.

This small experiment proved so encouraging that the work was gradually expanded. It was succeeded in May, 1942, by a small try out of the present general service procedure in 10 units. The decision was now made to allocate *all* recruits at the recruiting centres to a General Service corps, and to establish primary training centres throughout the country to which they would be directly sent before allocation to any arm of the Service. These important changes came into force in July. Many additional officers, commissioned and non-commissioned, were needed by the rapidly expanding DSP. The non-verbal test of intelligence was still given at the recruiting centres, in order that units linked to those arms which required the personnel of highest intelligence should have a selected intake and so reduce troop movements when they were posted. Soon after, command personnel selection officers, each provided with NCO and clerical assistance, were appointed for local supervisory duty.

* * *

In the selection of officers—another branch of the DSP's work—the psychiatrists have played a more dominant rôle than the psychologists. For here there is less need of the discovery of appropriate mental aptitudes. Apart from adequate intelligence, the essential desiderata for a good officer are qualities of character and temperament, constituting a suitable personality. The vocational psychologist has always regarded tests of personality as far less reliable than those of aptitude. He has depended rather on the interview for the assessment of such characteristics as honesty, industry, coöperativeness and sociability. Moreover, slight degrees of mental instability or other quasi-psychopathic tendencies are much less important among "other ranks" than among officers. In the summer of 1941, a War Office selection board (WOSB) was experimentally set up to improve the methods of assessing officer-candidates and so to reduce the numbers of men rejected from officer cadet training units with consequent waste of time, effort and expense. At this unit, during their two or three days' stay, they were confronted by military testing officers with professional and other situations in which they had opportunities of displaying their possession or their lack of initiative, ingenuity, capacity for leadership and courage. They were also subjected to psychological tests and to various psychiatric observations, many of them initially of a tentative, experimental character. But such success was achieved, particularly by the situation tests and by the interviews with the psychiatrists, that in the following spring WOSBs were established in every command throughout the country. Their work is largely clinical; psychiatrists, psychologists, and military testing officers live with the candidates during their stay in the unit; they discuss their independently formed verdicts in the presence of the president of the board who regards them as his technical advisers in determining the acceptability of each officer-candidate and his suitability for some particular arm of the Service.

* * *

The director of the DSP, a professional soldier, has to be in intimate touch with those formulating the ever-changing requirements of the Army. Though seldom given sufficient notice to allow of really thorough preparation, he has had to produce adequate numbers of the best-suited men and women needed in the various arms of the Service, and to select and train an ever-increasing staff. The DSP has received the invariable support and sympathy of the present Adjutant-General. It has had to spend much time in devising or adapting tests so that they are better suited to the Army's needs than any hitherto employed in civil life for vocational guidance and selection. Some of those suggested have

been adopted; others (e.g., tests for drivers and gun-layers) have been rejected. The value of these tests had to be experimentally determined within the Army before they could be applied on a wide scale. Their correlations with other tests already in use has needed calculation; "factor analysis" has also usually been carried out.

From the outset the DSP has established close contact with the corresponding but considerably older department in the American Army, which has generously sent to our War Office full information of its experience and methods. Similar assistance has been received from those psychologists carrying out corresponding work for the Admiralty and the Royal Air Force. The relations of the DSP towards the newly formed directorate of psychiatry within the Army medical services have throughout been cordial. The Army psychiatrists have coöperated in all the primary training centres, in the WOSBs, and in field units. The consultant psychiatrist or his director, or both, attend the meetings of the advisory committee with the War Office staff of the DSP. The psychologist depends on the psychiatrist for the psychopathological examination of men who through deficient intelligence or mental instability need special placing in the Army or discharge. In return, the psychologist informs the psychiatrist of the scores obtained from the intelligence test, and possibly will help to detect psychopathic conditions by the responses made to different sections of this test. Regular conferences are held at the War Office between the DSP headquarters staff and the advisory committee, the members of which have assisted also in conducting several investigations and in reporting on the directorate's work at various training centres. A conference with civilian psychologists, mostly in charge of university psychological laboratories throughout the country, has also been held, at which various offers of help were received and considered. Some offered statistical help, others the free use of their laboratories for research. The problem of selecting additional officers for the ATS was effected by liaison with the psychologists at Cambridge engaged upon the selection of specialists for anti-aircraft units. Contact was also established with the Medical Research Council, one of whose research workers carried out an investigation to devise the shorter form of intelligence test needed at the recruiting centres; another worked on the problem of the avoidance of traffic accidents among Army drivers. Technical investigators of the Industrial Health Research Board of the MRC had early been seconded to the staff of the directorate; while the staff of the vocational guidance department of the National Institute of Industrial Psychology was depleted almost to vanishing point, to supply the urgent need for selection work in the Army and Navy. Work similar to that of the DSP has been going on both in the Navy and in the RAF. Altogether, it will provide sociologists and anthropologists with a valuable survey of the distribution of aptitudes among a vast number of the poulation of this country, and with data which will still be useful after the war, when those now in the fighting Services return to civil life.

TREATMENT OF BACILLARY DYSENTERY IN THE MIDDLE EAST

J. W. PAULLEY, M B LOND, M R C P,
FLIGHT-LIEUTENANT, RAFVR

FOR a long time purgation and still further purgation has been widely accepted as the routine treatment for bacillary dysentery. There has been variation in the drugs themselves, their length of exhibition and dosage. At a recent medical conference in the Middle East the general feeling was that it was better to do nothing at all for cases of bacillary dysentery than to give salines. It was agreed that to dehydrate an already dehydrated patient could no longer be considered rational, and the farce of seeing such cases—which require urgent and immediate restoration of fluid intravenously—treated in this way should cease.

Results in a large series of cases treated last year on "do nothing, plus fluids" lines were at least as good as those obtained at the same time in a series of saline cases.[1] This tendency of most cases to get better anyway is disturbing, because in the mild form of disease (which has predominated this year) it leads to complacency. The few cases which do not "do" are lost in a mass of satisfaction and quick discharges.

The rationale of treatment with kaolin can be summarised as adsorption of toxins; rest for the gut; and avoidance of dehydration. Bacteriophage has apparently been found unsatisfactory by most standards, although it receives recognition on the continent. Large quantities of Bayer's polyvalent phage were captured in Libya. Pectin and pectinates have been used particularly in the dysentery and acute infectious enteritis of children. The mortality of these diseases, below the age of 3 years, remains deplorably high (they are the scourge of children's hospitals) and before the war were one of the big problems confronting municipal authorities.

Marshall and his colleagues[2] published results in a series of children treated with sulphaguanidine and reviewed its action; 220 mg. is soluble in 100 c.cm. at body temperature, and this was regarded as the level required in the gut for maximum therapeutic effect; in fact concentrations of 150–200 mg. per 100 c.cm. are achieved by the dosage generally employed. On the same dosage the blood values per 100 c.cm. vary between 3 and 4 mg. (compare 9–10 mg. sulphapyridine). The guanidine radical makes the drug sufficiently insoluble to remain in the bowel in high concentration. In Marshall's 17 children, mainly with Flexner but some Sonne dysentery, 7 who were treated on or before the third day had a rapid and uninterrupted recovery; in the others the reaction was either moderate or there was no demonstrable effect. There were no toxic effects, no hæmaturia and no effect on leucocytes. The quantity of the drug required for treating each case is considerable, its present cost is high and stocks are limited; so that only cases giving cause for anxiety, or becoming chronic, are at present receiving sulphaguanidine in the Middle East.

Reitler and Marberg[3] published results with sulphapyridine in 20 cases, all of which did well. Masefield[4] described a series of cases in a Flexner epidemic. He gave 1 g. 4-hourly of sulphapyridine on the first day, 0·5 g. 4-hourly on the second, 0·5 g. 6-hourly on the third, 0·5 g. three times on the fourth, and 0·5 g. twice on the fifth. He remarks on the excellent general condition of the patients when they were allowed up, usually about 7 days after the onset.

Lieut.-Colonel Buttle, who has kindly carried out in-vitro experiments, can find no difference between the bacteriostatic effect of sulphaguanidine and sulphapyridine against dysenteric organisms.

TREATMENTS COMPARED

The cases compared here were drawn from an area of a few square miles in the Middle East, over the period April–July, 1942. Most cases were mild; a few moderate to severe. The cases in this series fall into the following groups: (1) Cases on salines (plus sulphaguanidine when considered necessary) at a nearby hospital. (2) Cases on sulphaguanidine at this station sick quarters (SSQa). (3) Cases on sulphapyridine at SSQa. (4) Cases on sulphapyridine at Flight-Lieutenant Craib's station sick quarters (SSQb). (5) Cases on kaolin at SSQa.

These patients all passed blood and mucus, and the laboratory either isolated an organism, or reported indefinite exudate (IE) or bacillary exudate (BE) on the fæces. Isolation was low throughout and lower in the SSQ cases than in the hospital series. Most of the organisms were Flexner, a few were Shiga, Schmitz and Sonne. Personnel were all RAF, RAAF or RCAF. There was no selection of cases. The hospital series, which actually form the control, were men admitted either before SSQa was rendered fit to accommodate dysentery patients, or were "overflows" when the dysentery wards were full. There was no question of admitting severer cases to the hospital; rather were they detained in order that the sulphonamides might be tried further. Unlike many of the dysenteries from forward areas,

1. Lieut.-Colonel Bulmer at a medical conference in the Middle East, 1942.
2. Marshall, E. K., Bratton, A. C., Edwards, L. B. and Walker, E. *Bull. Johns Hopk. Hosp.* 1941, 68, 94.
3. Reitler, R. and Marberg, K. *Brit. med. J.* 1941, i, 277.
4. Masefield, W. G. *Ibid*, 1941, ii, 199.

all patients in the series were seen and treated within 1 or 2 days. It is thought that the groups are strictly comparable. The results are summarised in table I.

TABLE I—FIRST SERIES. FINDINGS IN FIVE COMPARABLE GROUPS

Where treated and treatment	Cases	Av. blood days	Av. days in bed	Remarks
SSQa: Sulphapyridine	43	1·23	4·26	No failures.
SSQb: Sulphapyridine	30	..	4·96	No failures.
SSQa: Sulphaguanidine	25	2·16	5·36	2 cases given sulphapyridine; 3 others outstandingly poorer response than in any sulphapyridine case.
Hospital: Salines *	60	..	12·6	Shortest case 6 days, longest 65 days; 11 cases more than 20 days.
SSQa: Kaolin	15	2·6	6·1	2 cases given sulphapyridine.

* Plus sulphaguanidine in bad or chronic cases.

1. *Hospital cases on salines (plus sulphaguanidine when necessary).*—These men were treated with castor oil and salines, the amount of salines varying with the opinion of the medical officer. There were 60 in all, of whom 11 can be regarded as being more severe, or who lapsed into a chronic state. These spent more than 20 days in hospital; 1 had a Shiga, 1 a Schmitz, 2 Flexner infections, 2 BE and 5 IE. Of those which cleared up without complications, 1 was a Shiga and 13 Flexners; the rest were BEs or IEs. All cases of sufficient severity were given sulphaguanidine early; the others received the drug only when they began to show signs of toxicity, dehydration or chronicity (usually 7–9 days after the onset). The shortest period under medical treatment was 6 days, the longest 65. The average period in hospital was 14·6 days. Since it takes about 48 hours for the discharge of a patient from hospital to go through, it has been decided to regard this as 12·6 days. Further analyses cannot be made on these cases since full details are not available.

2. *Cases on sulphaguanidine at SSQa.*—A group of 25 patients were treated with this drug; there was no selection of cases. Their average stay was 5·36 days. The amount of blood they passed was assessed in half days, the total of "blood days" was worked out for each case and averaged 2·16 days per man. All cases discharged were put on 2 or 3 days' light or excused duty, while their fæces were observed. As the hospital recommendations were the same, this period of non-effectiveness has not been taken into account. Five of these patients showed an outstandingly poorer response to sulphaguanidine than any did to sulphapyridine; and in 2 of them sulphapyridine was substituted for sulphaguanidine on the fourth and fifth days. In one the passage of blood was profuse, and the patient was becoming exhausted; the other was thought to be in danger of becoming chronic. The improvement on sulphapyridine was immediate in both cases, and the sulphaguanidine figures benefited by this interference. The average total dosage was usually about 80 g. per patient, over an average of 3 or 4 days.

3. *Cases on sulphapyridine at SSQa.*—Treatment from the start with sulphapyridine was given to 43 patients. There were no failures. All cases were put on glucose fluids initially, not less than 5 pints daily, and if motions were numerous this was increased to 7 pints a day, plus citrates. In a mild case sulphapyridine, 2 g., was given at once, followed by 1 g. 4-hourly for 24 hours. At the end of this time decision was made either to continue with 1 g. 3-hourly, or to reduce to 1 g. 4-hourly. The third day was nearly always at the rate of 1 g. 4-hourly. Only in one or two cases was it necessary to carry on treatment to the fourth day. Every effort was made to get the patients on to a light diet, and this was usually achieved by the morning of the third day, if not before, and the patients were allowed up. They were well throughout and frequency of motions had nearly always ceased by the second day. The total dosage averaged about 20 g. per patient over 3–4 days; average stay was 4·26 days per man. Average total days of passing blood was 1·23.

4. *Cases on sulphapyridine at SSQb.*—SSQb was only 600 yards away and the epidemiology corresponded exactly with that in SSQa. The dosage was slightly less than that used at SSQa and Flight-Lieutenant Craib's criteria for discharge slightly different (negative culture was always awaited). He treated 30 cases. The average for these patients' stay in sick quarters was 4·96 days, after which most of them returned to full duty. It is seen that this is better than the sulphaguanidine figures produced in this SSQ. He too had no failures with sulphapyridine.

5. *Cases on kaolin at SSQa.*—Kaolin powder was given to 15 patients in doses of 2 oz. immediately, 1½ oz. in 2 hours, 1½ oz. after a further 2 hours, then 1 oz. three times daily; total dosage varied between 12 and 18 oz. In 2 cases it was necessary to interfere by substituting sulphapyridine for kaolin; in one on the seventh day, and in the other on the fifth day. Both cases showed signs of drifting to a chronic state. Effect of sulphapyridine was almost instantaneous, and the figures for kaolin have benefited thereby. Average period in SSQa was 6·1 days. Average period of passing blood was 2·6 days.

SHIGA OUTBREAK

An isolated Shiga epidemic developed in one camp, during a week in July. Though patients were admitted to hospital when SSQa became full, control figures provided by such hospital cases are not yet available. The outbreak was vicious and, though both sulphapyridine and sulphaguanidine were found to be efficacious at SSQa the period of treatment required was generally longer than in the five groups compared above. Since these Shiga cases had no controls, and were not comparable to the mild or moderate dysenteries of the first series, they could not fairly be discussed with them.

The camp had had no dysentery cases for 3 months and the camp adjacent to it was not affected by the outbreak. The cause was possibly a carrier in a draft of 70 men who had arrived from India about 7 days before the dysentery began. There was altogether a total of 45 cases, 28 of which were treated in SSQa; 17 were sent to hospital. In 13 of the cases in SSQa the Shiga bacillus was isolated, and a somewhat higher percentage of isolations of this bacillus was obtained in the hospital cases. In view of the completely discrete nature of the epidemic, the number of isolations of the Shiga bacillus, the absence of other organisms, and the severity and similarity of the cases, I think this was a pure Shiga outbreak.

Sulphapyridine was given to 15 cases at SSQa. Total days of passing blood were assessed as in the previous series; there were 9 Shiga isolations in these cases. Sulphaguanidine was given to 13 cases; there were 4 Shiga isolations. The days of passing blood and in hospital are shown in table II.

Criticism may be levelled at the discharge of patients with this severe infection from the wards in such a short time. Under ideal conditions these patients might well have been detained in bed for a further few days. The dominating factor was, however, accommodation, both here and in the neighbouring hospitals. The procedure adopted was similar to that in the first series: cases as soon as they had been free from blood and mucus for 2–3 days were discharged to 3–4 days excused duty, complete rest, and kept under the observation of the nursing staff. All their motions were observed, and for 2 days after

TABLE II—FINDINGS IN A SHIGA EPIDEMIC TREATED AT SSQa, AND IN ALL CASES TREATED PERSONALLY

Series	Treatment	Cases	Av. blood days	Av. days in bed	Av. total dosage	Remarks
Shiga	Sulphapyridine	15	2·66	5·7	34 g.	1 drug rash 1 relapse
Shiga	Sulphaguanidine	13	4·73	8·01	142 g.	1 drug rash
All cases*	Sulphapyridine	63	1·74	4·8	..	..
	Sulphaguanidine	83	2·55	5·59	..	..

* These final figures for all cases treated by Flight-Lieutenant Paulley, including the Shiga outbreak and some recent cases, bring his experience up to date.—ED. L.

discharge a light diet was provided by the sick quarters' kitchen. They were made unfit for posting to other units for a week.

Sigmoidoscopy was carried out in all but 4 cases. There was one relapse in the sulphapyridine series while under outpatient observation. He was readmitted and rapidly cleared up in 2 days without further treatment. Average total dosage of sulphapyridine was 34 g.; the highest total amount to one patient was 43 g. Average total of sulphaguanidine was 142 g. Nausea and vomiting were not serious, and affected patients on both drugs. Two drug rashes were encountered, one a sulphaguanidine case, and the other a sulphapyridine. They were morbilliform; one became confluent, but both cleared in 4 days.

The main observations were: The more rapid reduction of stools, and disappearance of blood and mucus in the sulphapyridine cases than in those on sulphaguanidine; and the fact that cases on sulphapyridine became apyrexial within 24 hours, whereas cases on sulphaguanidine were often pyrexial for 4–5 days.

DISCUSSION

In the first series of 73 mild and moderate cases, sulphapyridine used from the onset was not followed by a single failure, or by any case in which the clinical response was not immediate (i.e., within 1–2 days). In no case on sulphapyridine in the first series was blood passed for more than 3 days. On the other hand, of 52 cases receiving the present recognised dosage of sulphaguanidine, 5 cases failed to show satisfactory response.

In the Shiga epidemic, the figures were even more conclusive; 5 out of 13 sulphaguanidine cases fared worse than any sulphapyridine case. From published work and from observation of other cases treated in hospitals in the Middle East, it seems that though sulphaguanidine is often as effective as sulphapyridine, cases commonly occur in which it appears to be inferior. This may be due to one or more of the following causes: (1) Dosage of the drug may not be high enough (though the dosage commonly recommended has been shown to provide a bowel concentration of 150–200 mg. %—the level advocated for this drug). (2) Sulphapyridine has a greater bacteriostatic action than sulphaguanidine in vivo. (3) The attainment of a high bowel lumen concentration may, after all, not be as essential as the attainment of a high blood concentration in dysentery.

Superficially, it looks as though there may be some truth in the last hypothesis. For years the intestinal diseases have been attacked from the viewpoint of local action. Intestinal disinfectants have been used and vaunted, but have failed to stand the test of time. May it not be a preconceived and mistaken idea to aim at a high bowel concentration of sulphonamide? True the sulphonamide compounds are effective as local agents, but though bacillary dysentery is pathologically a disease of the colonic mucous membrane, it is worth remembering that a tonsillitis or a pharyngitis is more effectually treated by a high blood concentration of sulphonamide than by painting the drug on those areas. A severely infected wound would not be treated by local sulphonamide alone.

In other conditions susceptible to sulphonamides the importance of catching the disease early in the acute stage has been emphasised, and presumably this is equally necessary in dysentery. Where sulphaguanidine is scarce there seems to be a good case for using sulphapyridine, not only because the results in these two small series have been encouraging but because the drug is more plentiful, less is needed for each case, and it is cheaper. On the other hand, there is more danger of agranulocytosis with sulphapyridine, which necessitates white counts if the drug is given for longer than 4–5 days, and it gives rise to more minor toxic phenomena. In the first series reported here no patient required sulphapyridine for more than 4 days. In the Shiga epidemic white counts were done in 11 cases, and there were a few examples of minor toxic phenomena among these cases, some patients vomiting on sulphaguanidine as well as some on sulphapyridine.

Advantages of sulphonamides over other forms of treatment are the speed of recovery, and the facts that solid food can be taken early, that the patient does not need a long convalescence, and that discomfort is cut short. If sulphonamides are used as a routine, however, there is always a danger that a dehydrated patient may get crystallisation in the renal tubules, with anuria. In the Middle East, of course, supply and cost must also be considered.

One severe case developed hæmaturia after 2½ days of sulphapyridine. It was immediately discontinued, but his dysentery was cured. Hæmaturia cleared in three days on fluids (forced) and massive alkali treatment by mouth. He was a bad patient and would not take his fluids well in the first place. It has been routine since this case to prescribe alkali—pot. cit., gr. 40 2-hourly—in the initial stages in all cases passing a large number of stools on admission. It is understood from the Egyptian Faculty of Medicine that a urine pH of 11 is necessary before crystallisation can certainly be averted. The importance of a daily urinary output of at least 1500 c.cm. has been stressed by Thompson, Herrell and Brown [5] of the Mayo Clinic as the surest means of preventing this complication.

The disadvantages of supply and cost are outweighed, from the military as well as the civil aspect, by the remarkable saving on the period of non-effectiveness. In this paper it is shown as 8 clear days per individual over the time with saline treatment.

SUMMARY

Results in five comparable groups of cases of mild and moderate dysentery among Air Force personnel in the Middle East were compared. Most were of the Flexner type.

In 60 cases treated with salines, supplemented with sulphaguanidine later if necessary, the stay in hospital averaged 14·6 days (equivalent to 12·6 days in bed).

In 25 cases treated with sulphaguanidine the average period in bed was 5·36 days.

In two groups of 43 and 30 cases treated with sulphapyridine the average periods in bed were 4·26 and 4·96 days.

In 15 cases treated with kaolin (2 supplemented with sulphapyridine later) the average period in bed was 6·1 days.

In an outbreak of severe Shiga dysentery the average periods in bed were 5·7 days in 15 cases treated with sulphapyridine and 8·01 days in 13 cases treated with sulphaguanidine.

It is concluded that treatment with sulphonamides is superior to other methods tried, and that sulphapyridine has advantages over sulphaguanidine.

Sulphonamide treatment should be begun early in the acute phase before the disease has spread or become chronic.

Wing-Commander J. H. L. Newnham first suggested that strictly comparable series of dysentery cases should be treated by the various methods available. I wish to thank Flight-Lieutenant Craib for permission to record the results of his cases treated with sulphapyridine, and also Group-Captain O'Malley, Wing-Commander Lee Potter, and Major Dick for their help and criticism.

5. Thompson, G. J., Herrell, W. E. and Brown, A. E. *Proc. Mayo Clin.* 1941, **16**, 609.

STATUS OF THE GENERAL SURGEON.—The general surgeons on the staff of the Johannesburg General Hospital have issued a manifesto in which they deplore the prevalent impression that general surgery as a specialty is rapidly becoming defunct. They argue that there is apt to be a confined outlook and lack of broad perspective in small specialties. The one system concerned in any particular specialty is but a small part of the body, and its diseases are often considered without due regard to the whole organism. The present-day tendency to embark on specialism soon after qualifying never permits such specialists to appreciate the immense importance of the condition of the rest of the body in relation to their own small sections of it. In the teaching of students particularly, says the manifesto, the teacher must be able to consider the whole body in relation to disease and injury.

ANTERIOR AND POSTERIOR FOSSA CEREBRAL TUMOURS

CLINICAL STUDY OF 122 CASES

G. JOLY DIXON
MD DUBL, MRCP
LATE REGISTRAR

GERALD FITZGERALD
MB NUI, MRCP
LATE RESIDENT MEDICAL OFFICER

NATIONAL HOSPITAL, QUEEN SQUARE

SINCE Hitzig and Fritsch discovered the motor area in 1870, certain physical signs and symptoms have come to be regarded as indicating lesions in various parts of the brain. Clinicians, however, led by Hughlings Jackson (1871) have increasingly appreciated that the brain works as a whole; thus extensive lesions in one area may cause effects usually associated with lesions remote from it (Collier 1930). Hare (1931), Gordon (1934) and Jefferson (1939) have noted that anterior fossa tumours may mimic the symptomatology of tumours in the posterior fossa, and stressed the difficulty of deciding in which of these regions a cerebral tumour may lie. Some tumours in the posterior fossa may also produce symptoms suggesting a lesion in the anterior fossa, though little attention has hitherto been paid to them in published work.

Recently we have observed several cases which illustrated these two points, and led us to analyse the clinical symptoms of all cases of proven anterior and posterior fossa tumours in the National Hospital between January, 1938, and October, 1940. Only cases where the diagnosis was verified either at operation or autopsy were considered. The 122 cases included: 56 tumours of the anterior fossa and 66 of the posterior fossa. The anterior fossa tumours were: 40 frontal gliomata; 2 frontal cysts of undetermined nature; 11 meningiomata of the sphenoidal ridge; 2 meningiomata of the falx; 1 sarcoma arising from the falx. The posterior fossa tumours were: 12 cerebellar gliomata; 9 cerebellar cysts of undetermined nature; 7 medulloblastomata; 4 gliomata of the floor of the fourth ventricle; 2 ependymomata; 10 hæmangiomata; 17 neurofibromata; 3 meningiomata of the posterior fossa; 1 cholesteatoma; 1 vascular tumour of the lateral recess.

The examination was confined to those signs and symptoms which, while generally useful in differentiating between tumours in these two situations, may cause confusion when they happen to be anomalous. An analysis of such signs and symptoms is given in the table; they were: mental changes, epileptiform convulsions, nystagmus, ataxia, the grasp reflex and an absence of all localising signs.

INCIDENCE OF SIGNS AND SYMPTOMS IN 122 CONSECUTIVE TUMOURS IN THE ANTERIOR (56 CASES) AND POSTERIOR (66 CASES) CEREBRAL FOSSA

Symptom or sign	Total cases	In anterior cerebral fossa	In posterior cerebral fossa
Major fits	28	23	5
Loss of consciousness with—			
Minor motor disturbances	8	5	3
Fits and/or minor fits	36	28	8
Mental disturbance	58	42	16
Drowsiness	21	14	7
Nystagmus	49	7	42
Static tremor	9	8	1
Cerebellar ataxy	29	0	29
Slight irregularity of movement—			
Ataxy or tremor	15	2	13
Unsteadiness	55	13	42
Absence of all localising signs	20	13	7
Grasp reflex	5	5	—

DISTRIBUTION OF SYMPTOMS

Mental changes were common in both types. The most characteristic change was drowsiness and lethargy. In 21 (16% of the whole series) this was so severe that the patient spent the greater part of his time asleep with occasional periods of misdirected voluntary motor activity; when roused however he would appear rational and coöperative. Of these, 14 had anterior fossa and 7 had posterior fossa tumours. Mental abnormality other than drowsiness was found in 58 cases (48%); these included affective disturbances, disorders of judgment and will, fixation of attention, alteration in basic mood, loss of inhibition and lack of spontaneity; 16 (25%) patients exhibiting one or more of these changes had tumours in the posterior fossa and 42 (75%) in the anterior fossa. Among the latter were the 12 cases showing the greatest degree of psychological abnormality in the series. As a rule the mental changes were of recent origin in the posterior fossa group and may well have been due, as Stewart and Holmes (1904) suggest, to increased intracranial pressure. There were 2 noticeable exceptions to this rule: in one the mental change had been present for 25 years, and in the other for 15 years. In these 2 cases the mental disorders may have been a coincidence. Schuster (1902) found mental changes in 55% of 588 verified cerebral tumours, and in a discussion at the Royal Society of Medicine in 1931, Kinnier Wilson stated that the localising value of mental symptoms in cases of cerebral tumour was slight. Most of those who took part in the discussion agreed.

Epileptiform convulsions have long been known as a common feature of cases of cerebral tumour; but the work of Lennox and Cobb (1928)—who noted that cerebral tumours were found in only 3·5% of epileptics at autopsy—established that fits alone, in the absence of other symptoms and signs, are of little significance in the diagnosis of a cerebral tumour. In our series, fits occurred in 28 cases, and a history of "fainting attacks" in a further 8. On careful investigation of the history it seemed that most of these fainting attacks were epileptiform in nature. Fits occurred in 5 cases of posterior fossa tumours and loss of consciousness with minor motor disturbances in 3, giving an incidence of convulsive states in 12% of cases. This is significantly greater than the figure of 0·6% for epilepsy in the adult male population of London (Galloway et al. 1920), and must be due to an association between posterior fossa tumour and epilepsy. Fits have been noted in cases of posterior fossa tumour by: Collier (1904), 3 cases out of 26; MacRobert and Feinier (1931), 5 out of 45 cases; and Webster and Weinberger (1940), 34 out of 158 cases. The association was denied by Parker (1930), who failed to find a single instance in 91 cases of posterior fossa tumour. In the 1931 and the 1940 series, major epilepsy was relatively rare, while tonic and localised clonic attacks and syncope accounted for most of the cases.

In our series, 4 patients with posterior fossa growths (multiple neurofibromata, a cyst and a glioma of one lobe of the cerebellum, and a glioma of the floor of the fourth ventricle) all suffered from epileptiform fits. One of these had, in addition, local clonic attacks which did not proceed to unconsciousness. Another boy of 17 with a medulloblastoma had attacks of tonic bilateral adduction of the arms, followed by unconsciousness without any clonic movements. Such further details as were available indicated that these attacks were similar to the classical cerebellar fits described by Hughlings Jackson in 1871. Of the 3 additional cases with loss of consciousness, one, a boy aged three years with a left cerebellar cyst, was reported to be stiff and unconscious with his legs extended during two at least of three so-called fainting attacks. Thus it seems that a posterior fossa tumour predisposes to convulsions; occasionally these may be cerebellar fits, but more usually they are epileptiform in character.

Epileptiform fits occurred in 23 cases of anterior fossa tumours: 17 gliomata, 5 meningiomata and 1 sarcoma. This gives an incidence of 41% in anterior fossa tumours. Jefferson (1939) found convulsive attacks in 20% of 20 cases of frontal meningiomata and in 50% of 30 cases of gliomata of the same region. Hyland and Botterell (1937) found it in 46% of 30 frontal gliomata. An additional 5 cases in our series of anterior fossa tumour suffered from recurrent syncope.

Nystagmus was regarded by Stewart and Holmes (1904) as one of the most valuable localising signs of cerebellar tumour. They found it at one time or another in almost all their cases. In our series, persistent nystagmus on

lateral deviation was observed in 42 (64%) cases of posterior fossa tumour. This does not include nystagmoid jerks observed at irregular intervals. In addition, 7 (10%) cases of anterior fossa tumour also showed this sign. Hare (1931) found that 19 of 50 unselected frontal tumours showed no evidence of incoördination or nystagmus, while another 5 of the same series simulated closely a lesion in the posterior fossa. Comparable findings are recorded by Gordon (1934) and Jefferson (1939). In our series, nystagmus usually did not cause any great difficulty in diagnosis when present in anterior fossa cases, since most of these had other gross signs referable to a lesion in this region. In 19 of our cases, nystagmus was an isolated localising sign; in 18 of these the tumour lay in the posterior fossa. Stewart and Holmes (1904) described the typical nystagmus of cerebellar disease as "a deliberate jerking movement to the side of the lesion, when the eyes are deviated in that direction, with gradual recession to the middle plane; in conjugate deviation of the eyes to the opposite side the movements are of smaller range, but occur in more rapid succession." In our series nystagmus of this type occurred in 28 cases, 18 of which exactly corresponded with that description. In 6, however, deviation of the eyes to the side of the lesion produced the finer and more rapid movements, and in 4 the tumour lay in the midline. Of the 28, 8 had unilateral intracerebellar lesions, in 7 of which the nystagmus conformed to the classical description.

Ataxia.—Irregularity of movement may be due to cerebellar ataxia or tremors. In cases where the irregularity of movement is slight it may be difficult to differentiate between the two on this sign alone. Such slight irregularities were found in 2 cases of tumour in the anterior and in 13 cases of tumour in the posterior fossa. In most of these, however, other signs were present which pointed to the correct diagnosis. Cerebellar ataxia was present in 29 cases, and all had posterior fossa tumours. In addition, 3 anterior fossa tumours with hemiparesis had incoördination of movement in some respects resembling cerebellar ataxia on the hemiparetic side. Static tremors similar to those described by Stewart (1906) were found in 10 cases; 9 of these had tumours in the anterior cranial fossa, and the 10th patient was found to have a cyst in the right lobe of the cerebellum. This was an unusual case, since epilepsy had been present for twenty years. In most of the 9 cases of frontal tumour with tremor this was greater on the side opposite to the lesion. Another type of tremor, probably due to hypotonia (Holmes 1922), develops in many cases of cerebellar lesions on fatigue. We have not found that this type of tremor causes much confusion, and since it is almost always associated with ataxia no special records were made.

The *grasping, groping reflex* (Wilson and Walshe 1914) was observed in 5 cases of anterior fossa tumour. Hyland and Botterell (1937) found this phenomenon in 1 out of 90 frontal gliomata, and Jefferson (1939) in 2 out of 50 frontal meningiomata and gliomata. No such reflex was found in any case of posterior fossa tumour.

Absence of localising signs.—The absence of all localising signs in a patient otherwise known to have a cerebral tumour is regarded by many (Collier 1904, 1929) to be good evidence of a frontal or a right temporal location. Such was found to be the case in 13 (23%) examples of anterior fossa tumour in our series. We were impressed by the frequency with which drowsiness overshadowed the picture in posterior fossa tumours, so that either no signs relating to this region were obtained, or the signs consisted of one minor abnormality not constantly present. In 3 cases at least, a left cerebellar hæmangioblastoma, neurofibromata of the 9th and 10th cranial nerves and a medulloblastoma of the roof of the fourth ventricle, diagnosis was only made after ventriculography. In a further 4 cases, the physical signs on which the diagnosis was established were either likely to be missed by most observers or insufficient to warrant their being used as localising signs; 7 cases (10%) therefore of the posterior fossa group were unaccompanied by localising physical signs.

SUMMARY

There seem to be inherent difficulties in the differentiation of growths in the anterior from those in the posterior fossa if too great reliance is placed on epileptiform attacks, irregularity of movement, mental changes, nystagmus, or the absence of localising physical signs.

In a consecutive series of 122 cases from the wards of the National Hospital, proven by autopsy or operation, 56 cerebral tumours were localised in the anterior and 66 in the posterior fossa.

The grasp reflex in 9% of the anterior group, and cerebellar ataxia in 44% of the posterior group, were the only unequivocal signs.

Nystagmus was seen in 10% and epileptiform fits in 41% of the anterior group, the incidence of similar findings in the posterior group was 64% and 8%. Mental change was so common in both the anterior (75%) and the posterior groups (25%) that it should not be considered of value in localisation.

All localising physical findings were absent in 23% of the anterior fossa group and in 10% of the posterior fossa group; this finding is unusual.

We wish to thank the honorary staff of the National Hospital for permission to examine these cases, particularly Dr. Gordon Holmes for his help and advice.

REFERENCES

Collier, J. (1904) *Brain*, **27**, 490; (1929) *Brit. med. J.* ii, 289; (1930) *Ibid*, i, 55.
Galloway, J., Kaye, H. et al. (1920) Ministry of National Service, Report I, p. 25.
Gordon, A. (1934) *J. nerv. ment. Dis.* **79**, 411.
Hare, C. (1931) *Bull. neurol. Inst., N.Y.* **1**, 532.
Holmes, G. (1922) *Lancet*, i, 1177.
Hyland, H. and Botterell, E. H. (1937) *Canad. med. Ass. J.* **37**, 530.
Jackson, J. Hughlings (1871) *Brit. med. J.* ii, 528; reprinted (1906) *Brain*, **29**, 425.
Jefferson, G. (1939) *Post-grad. med. J.* **15**, 170.
Lennox, W. and Cobb, S. (1928) Epilepsy, Baltimore.
MacRobert, R. and Feinler, L. (1921) *Arch. Neurol. Psychiat.* **5**, 296.
Parker, H. (1930) *Ibid*, **23**, 1032.
Schuster, P. (1902) Psychische Störungen bei Hirntumoren, Stuttgart.
Stewart, G. and Holmes, G. (1904) *Brain*, **27**, 522.
Webster, J. and Weinberger, L. (1940) *Arch. Neurol. Psychiat.* **43**, 1163.
Wilson, S. A. K. (1931) *Proc. R. Soc. Med.* **24**, 297.
— and Walshe, F. M. R. (1914) *Brain*, **37**, 199.

SCABIES AND INTELLIGENCE

KENNETH MELLANBY, B A CAMB, PH D LOND
SORBY RESEARCH FELLOW OF THE ROYAL SOCIETY

A. L. NORTHEDGE, B SC LOND — C. G. JOHNSON, PH D LOND; MAJOR, RAMC

Hodgson (1941a and b) has shown that groups of patients suffering from different skin diseases may differ in their average intelligence. In particular he found from a series of patients with skin diseases that those with parasitic infections, including scabies, contained the highest proportion of men of inferior intelligence. In order to corroborate Hodgson's findings, and to see whether certain types of scabietic infection (for instance, with or without secondary infection) were correlated with different types of intelligence, several hundred patients were examined to assess their intelligence.

The test used was the RECI Progressive Matrices (Penrose and Raven 1936, Raven 1939, 1942). Hodgson used sets A, B and C only; we used the whole five sets, A, B, C, D and E, in order that our figures could be compared with the "norms" which have been obtained by examining very large numbers of men on their entry into the Forces. The men were allowed 20 minutes in which to attempt the test. The highest mark obtainable is 60, and with this limited time test several hundred thousand army recruits gave scores which may be divided into grades as shown in the table; these results may be considered as norms.

In every group of men examined some give scores which should be placed in another grade as "unreliable." These unreliable scores are distinguished by being significantly different from the average results in their "break up" of the answers for the different sets of questions. The exact nature of a so-called unreliable score is best explained by means of an example. The five sets, each of twelve questions, are of increasing difficulty and the average marks (for correctly answered questions) for men whose total was 22 were 10, 7, 3, 2, and 0 for sets A, B, C, D and E respectively. If a total of 22 is scored, and if for any two sets the result is more than 2 marks different from the average, the result is unreliable.

Thus, a score of 22 made up as 7, 10, 3, 2 and 0 would be considered unreliable. In analysing our figures we have treated separately 38 results which appear to be unreliable. Incidentally, whether or not the unreliable scores are included in the calculations given below, little difference is made to the final results.

RESULTS

A series of 316 men were subjected to the test; 25 of these, who were tested before their skins had been examined, were found not to be suffering from scabies and their results have been ignored; causes outside our control interrupted 3 of the tests and these too have been

TEST SCORES IN NORMAL RECRUITS AND IN PATIENTS WITH SCABIES

Intelligence grade	Marks	Per cent. of	
		Norms	Scabies
1	45 or over	15·8	10·5
2	39–44	25·7	22·5
3	35–38	23·9	26·5
3	27–32	10·1	21·0
4	18–26	13·5	13·5
5	17 or less	5·0	5·5
Unreliable ..	..	5·0	13·2

neglected; the 38 unreliable scores were treated separately. In the table the results in the remaining 250 reliable scores are compared with the normal distribution and it will be seen that there is no significant difference at the lower end of the table, although our patients appear to include a rather low proportion of men of superior intelligence. This result is not in agreement with Hodgson's conclusion that a high proportion of scabies patients are of lower than normal intelligence.

The main criticism of Hodgson's results is that his norms are too high. With a total possible score of 36 only 5% of his control group scored 19 marks or under. In the norms used here—obtained from much larger numbers of subjects—out of a possible total of 60 marks 5% of the men scored less than 17. We believe that if Hodgson had used norms obtained from a larger group of subjects and not from a selected population like an RAMC intake his results obtained from scabies patients would not have been very different from ours.

In the Army at present there is a good deal of propaganda about conditions such as scabies, and the men are urged to report sick as early as possible if they detect any such complaint. One might expect therefore that the more intelligent man would report himself sick and the dullard would find little cause for complaint and only be detected at a routine inspection. In all, 176 men reported themselves sick and 72 were detected at routine inspections (no data were kept in the other 2 cases). There appears to be no difference in the average intelligence of these two groups, the average score for the self-reporting cases being 33·9 marks, whereas that for the men detected at routine inspections was 34·2.

Scabies is usually detected because a patient itches and complains of this symptom or because he relieves his itching by scratching, and the scratch marks are themselves observed. It was thought possible that less intelligent individuals might support larger parasite populations before sufficient itching was noticed and scratching provoked to lead to the detection of the complaint. Actually this does not appear to be the case. We have developed a technique for estimating the intensity of the parasitic infection accurately, and, when we divided the men into two approximately equal groups, those with a lower number of parasites (126 men) obtained on the average 33·0 marks and those (124 men) with a higher number scored 34·9. The phenomenon of itching is a complex one and it is perhaps not surprising to find it bearing no direct relation either to intelligence or parasite population.

In most cases neglected scabies is complicated by secondary infection, which is as a rule more serious in its consequences than the primary sarcoptic attack. One might expect the intelligent man to be concerned about the onset of secondary infection, whereas the dullard would have nothing done about it. In this investigation 168 cases showed no secondary infection and 82 some degree of it. The average score for two groups was 33·5 and 34·9 respectively.

Among the 13% (38 cases) of scabietic individuals who gave scores which had to be considered unreliable our figures were 5% higher than the norms; this may be because many patients with scabies are suffering from anxiety, perhaps because many of them believe they have contracted a venereal disease.

SUMMARY

Men suffering from scabies had their intelligence tested by the RECI progressive matrices test. The results indicated that they were mentally an approximately normal sample from the Army. There was nothing to suggest that this group contained an abnormally high proportion of men of low-grade intelligence.

No significant difference in intelligence was discovered between men who reported themselves sick and those who were detected at routine inspections; those with few and those with many parasites; or those with or without secondary infection.

We wish to thank Dr. F. J. Esher for his advice and Major J. D. W. Pearce and Major G. A. Hodgson for reading and commenting on the manuscript.

REFERENCES

Hodgson, G. A. (1941a) *Brit. med. J.* i, 316; (1941b) *Lancet*, ii, 791.
Penrose, L. S. and Raven, J. C. (1936) *Brit. J. med. Psychol.* **16**, 97.
Raven, J. C. (1939), *Ibid*, **18**, 16; (1942) *Lancet*, i, 115.

DIAGNOSIS AND TREATMENT OF SCIATIC PAIN

MICHAEL G. GOOD, M.D. BERLIN, L.R.C.P.E.
CAPTAIN, RAMC

(*From a military hospital*)

IN the Army I have met with a large number of men complaining of a dull ache, sometimes extremely severe, down the back of the thigh, sometimes extending as far as the heel and sometimes stopping at the popliteal space. The pain may be referred to the outer aspect or front of the leg; it is increased on standing and often worse at night. In my view the origin of this pain is almost always muscular. Well-defined myalgic spots, harder than the surrounding muscle, can be found in the quadratus lumborum, glutei or tensor fasciæ latæ muscles. Pressure on these produces agonising pain, sometimes similar in character and distribution to that complained of, and persisting for some minutes. The distribution of the spots does not correspond with that of the pain complained of, which is a referred one. Injection of procaine into these spots removes both the local tenderness and the referred pain.

EXAMINATION AND TREATMENT

Hard pressure is made with the right thumb, or with the index or third finger on the origin, insertion and along the border and course of the muscles to be examined. Wherever possible the muscle or tendon should be pressed against a bone. The pressure has to be made so as to cause only moderate discomfort or slight pain when applied to a normal muscle, and patients easily distinguish the difference between such a pressure on a normal muscle and on a myalgic spot. Pressure on a myalgic area elicits so agonising a pain that the patient winces and sometimes says spontaneously: "You have got it, sir." In muscular sciatica the myalgic areas are, as a rule, to be found in the edge of quadratus lumborum, the origin and border of upper (muscular) part of tensor fasciæ latæ, in the gluteus medius about ½ in. below the iliac crest and in the course or rarely the origin of gluteus maximus. The figure shows characteristic examples of pain distribution and myalgic spots.

Areas of pain (shaded) and myalgic spots in two cases.

Rapid, effective and permanent relief can be obtained by injection of procaine into each myalgic spot, care being taken to infiltrate the whole muscular area. I use procaine hydrochloride, 1 g., with phenol, 0·5 g., made up with saline to 100 c.cm. in sterile rubber-capped bottles. The myalgic spots are mapped out very carefully on the skin with a blue dermatograph, the pencil marks are painted over with iodine and 1–2 c.cm. of the procaine solution is injected intramuscularly into each myalgic spot. The results of a thorough and accurate injection are: almost instantaneous relief of pain; relaxation of the contracted muscle as evidenced by palpation; and disappearance of local and referred pain and the wincing when the myalgic spot is pressed.

RESULTS

In the Army I have seen, among 700 cases of myalgia, 65 officers and other ranks who suffered from the syndrome of "sciatica." In all the cases the myalgic spots described could be located in the hip muscles by objective criteria. All but one case were fully relieved and returned to duty in a relatively short time. The one case not cured turned out on psychiatric investigation to be due to simulated pain. I am confident that these favourable results can be obtained by every physician who takes the trouble to locate myalgic spots and apply the appropriate treatment. I treated the 65 cases in medical inspection rooms and at two military hospitals, and was therefore not able to follow them all up; in several patients seen up to 10 months after the last treatment the permanent results were good.

Reviews of Books

Disorders of the Blood

(4th ed.) L. E. H. WHITBY, MD Camb, FRCP; C. J. C. BRITTON, MD NZ, DPH. London: J. and A. Churchill. Pp. 595. 28*s*.

IN producing a new edition of this well-established book the authors, by including a good deal of new material, have sought to bring it properly up to date. Unfortunately the additions have not always been wholly assimilated, nor the contradictory older sections thoroughly pruned; this is especially true of the first two chapters. A new plate (plate III) sets out very well the classification and development of the erythroblasts according to present-day ideas, the scheme of Israëls having been selected as representative, and plate IV also shows good reproductions of hæmoglobinated megaloblasts, and normoblasts, using these names in the same way; but plate II and tables II and IX are still retained, and these show a quite different kind of megaloblast—that of the schemes popularised by Doan and his followers some years ago. This confusion is found throughout the text wherever erythropoiesis is mentioned, either normal or pathological; so far as we can see "megaloblast" between inverted commas indicates the cells illustrated in plates III and IV; megaloblast without inverted commas indicates the plate II cell. There must be few hæmatologists nowadays who do not agree that megaloblastic changes in the marrow are limited to pernicious anæmia and allied conditions, and this is properly illustrated in plate III; but in the text megaloblasts are described as being present in the marrow of "simple anæmia," and the table of normal marrow cells (p. 561) shows megaloblasts present up to 4%. The scheme used in plates III and IV is now sufficiently accepted to allow the presentation of a much more uniform account of erythropoiesis than the authors give here. The rest of the book maintains previous high standards. It is interesting to see that Wintrobe's "morphological" classification of anæmias is used and is fully set out in table VII; this table will be puzzling to those brought up on "colour index" classifications, since the term "hyperchromic" doesn't appear at all, but it is a step in the right direction. Full descriptions are given of recent work on methæmalbumin, the rôle of the porphyrins, the importance of vitamin K and glandular fever. The section on blood groups is unusually complete and tackles the subdivisions of group A and the recently described "Rhesus factor." As might be expected, the section on blood transfusion and blood substitutes is thoroughly practical. The discussion of the differential diagnosis of pernicious anæmia is very complete, and a useful table is given on p. 200 of the various liver and stomach preparations available in this country for its treatment. The increased iron requirements in adolescence are emphasised, and the theory that copper is necessary for erythropoiesis is supported. The section on technique is practical, but to give 7½ pages to descriptions of how to determine red blood-cell diameters and only 2 pages to bone-marrow biopsy seems to be the wrong way round in view of the relative importance of these two investigations in differential diagnosis; the work of Jeanneret on the difficulties of obtaining reliable post-mortem marrow specimens is fully noticed. The make-up of this book is familiar, and the publishers have again shown that it is possible to produce a book of nearly 600 pages with 8 excellent colour plates at a reasonable price.

Society and Medical Progress

BERNHARD J. STERN, PhD, lecturer in sociology, Columbia University. Princeton University Press; London: Humphrey Milford, Oxford University Press. Pp. 264. 18*s*. 6*d*.

Dr. Stern cuts across the arbitrary barriers that have taken medicine out of the context of other sciences and social institutions, and shows that it cannot develop and never has developed in isolation—that its rôle and achievements are conditioned by the soil in which it is rooted. His dynamic interpretation of medical history is at once stimulating and revealing. The impact of social needs on medicine has been brought into relief, in England and America, by the problem of providing adequate medical care for those with low incomes. Medicine, by reducing mortality and lengthening the life span has had repercussions on social life; chronic and degenerative diseases have become prominent, and this has affected public policy in the care of the aged. Medicine has encountered opposition in its progress—from within the profession, from workers in other branches of science, and from non-scientific circles. In each case, as Dr. Stern shows, resistance to change has depended on social and economic factors.

A Pocket Medicine

G. E. BEAUMONT, DM Oxfd, FRCP, physician to the Middlesex Hospital. London: J. and A. Churchill. Pp. 202. 10*s*. 6*d*.

THE essentials of a bigger text-book are here condensed into 200 pages, and perhaps in war-time a reliable pocket medicine has its special place (besides the pocket). It is one of the minor horrors of war that it also has its special price. Those who know Beaumont's fuller text-book will recognise this volume as an expertly abbreviated edition; it contains an astonishing amount of information and surprisingly few omissions. The paper and printing are first-rate, a noteworthy advantage if it is to be read in war-time trains with war-time crowding and lighting. The 15 chapters are arranged mainly according to bodily systems, but with special sections on tropical diseases, infectious diseases, parasitic worms, poisons, the ductless glands and metabolic diseases. Some lack of balance is inevitable: thus peripheral neuritis receives as many lines as ochronosis. But for revision, provided he has founded his clinical learning on a rock, many a student will be glad to slip this book into his pocket.

Illustrations of Regional Anatomy

4th ed., sections I–V; 3rd ed., sections VI and VII. E. B JAMIESON, MD. Edinburgh: E. and S. Livingstone. Plates 318. 60*s*.

THE third edition of sections I–V of these well-known books was unfortunately lost by fire, so Dr. Jamieson has quickly produced the fourth edition of these sections together with the third edition of sections VI and VII. The coloured plates represent dissections of the regions concerned. The fourth edition of sections I to V show, in general, that accuracy to be expected from the author. In the interests of the learner, it is perhaps worth noting that the relation between the radial artery and the muscular part of the long flexor of the thumb might be misunderstood from plates 27 and 28 of section VI, showing the deep front of the forearm; this is only a detail, but regional anatomy is composed of such details, and if one of them is wrongly conceived, the whole picture must suffer. Section VII deals with the lower limb fully and successfully. The whole production reflects credit on the author, publishers and printers who faced and made good the damage.

Supplement to THE LANCET, Nov. 21, 1942

MEDICAL PLANNING RESEARCH

INTERIM GENERAL REPORT

I. Introduction

1. MEDICAL PLANNING RESEARCH has set out to present a plan for the future of medicine in Britain. Through the medical press, it has invited membership from those who are prepared to play an active part in its work. Members who have prepared drafts for this interim report have been, for the most part, doctors qualified less than 21 years, or others connected with the health services who are not over 45. Members who wish to act as critics of the report are of all ages. Drafts have been received from over 200 members, and have been edited by a small editorial group. Since the report is intended as a basis for discussion, there has been no attempt at making the editorial group representative. The report is now presented for examination and detailed criticism by the members of MEDICAL PLANNING RESEARCH, and anyone else who may wish to do so. For their convenience, paragraphs are numbered consecutively throughout. Criticisms should be sent to MEDICAL PLANNING RESEARCH, c/o The Connaught Hospital, Walthamstow, London, E.17. So as to give members serving in Middle East and other distant parts full opportunities for criticism, it is not proposed to prepare the final report until at least 6 months after this interim report has been circulated.

2. Members of MEDICAL PLANNING RESEARCH are pledged to two guiding principles. First, they agree to proceed by scientific methods. This involves the collection of all available evidence, belief according to the evidence, and readiness to admit error whenever shown by the evidence. It involves also an attitude of impartiality in dealing with matters whether of unusual novelty or sanctioned by time-honoured tradition. Secondly members agree to place first in their planning proposals the maximum benefit of the maximum number of patients. If this aim is to be achieved, it is only one degree less important to have optimum conditions for those who serve the patients. But if these two conflict, the patients must always have precedence. The word "patient" is defined as any person receiving, or needing to receive, the help of medicine in its broadest sense—that is, the prevention and treatment of physical and mental illness, and the production of positive health, physical and mental. In computing the maximum number of patients, the only practical method is to count each individual as one. Attempts to place different social values for health purposes on the labourer and the lawyer, the director and the dustman are not only impossible; they are foreign to the whole spirit of medicine.

3. This interim report has two parts. The first is a broad general outline of our proposals for the future of medicine. The second will deal with the numerous detailed problems which must be fitted into the broad picture. Ultimately it is intended to publish the final revised versions of both parts as a book.

4. At the start of our task, we have to recognise two groups of problems connected with, but not strictly a part of, medical planning. First, medical organisation is very largely determined by the social pattern of the society in which it exists. The nature of this pattern imposes certain limits on our efforts. Thus, for example, a small island community of a few thousand people could not maintain a teaching hospital. If it had to train its own doctors, it would have to revive the apprenticeship system. Our present medical system has grown up in a strongly individualistic society, with many special virtues and special faults, in consequence. We shall examine the probable social pattern of postwar society, so as to see the framework inside which the new medical services will have to be built. We shall have comments to make on this framework from our special medical point of view.

5. The second group of problems connected with, but not strictly a part of, medical planning are those of environmental planning for health and happiness. Whereas in the first group, we are concerned with the changes that are likely to occur, and their effect on medicine; in the second we are concerned with those which ought to occur if maximum health of mind and body is to be obtained. The first is, as it were, our minimum; the second is our optimum. We shall have, then, to add to our study of the pattern of postwar society, a study of the special measures which should be taken, inside these limits, to achieve the highest measure of positive mental and physical health. We shall study these two sets of problems concurrently from five different aspects: population; productive capacity; poverty; purchasing power; physical planning of town and country.

PART I

Minimum and Optimum

II. Population

6. Among demographers (scientific students of population) there is substantial agreement on the following points:—

(i) If the population trends which existed in Britain before the war continue indefinitely, the rate of increase will get steadily less. In due course the population will become stationary at a maximum about 2 million more than the present figure of 46 million. This will be between 1951 and 1961. Thereafter it will steadily decline. Estimates for the population of England and Wales (now about 40 million) in 100 years' time range from 20 million to 4 million. These estimates depend on one assumption—that the prewar trends continue unaltered. But the upper limit of the birth-rate for the next 20 years is already determined by the number of girl children born in the past 25 years. In demography one has to look ahead a long way if one is to take check of a declining population.[1]

(ii) Concurrently with the slowing of the growth of the population, there will be a shifting of the age-grouping, from the younger to the older. The Registrar-General has forecast that in 1971, when the population has dropped to the 1937 level, the number of children under 15 will have fallen by 2½ million, and the number of persons between 15 and 65 by 1½, while the number of old people over 65 will have risen by 4 million. These figures strongly emphasise the danger of declining population which lies ahead. For this ever diminishing band of children represent the parents of the succeeding generations.[2]

(iii) It is both possible and practical to plan and control the population within certain limits, provided the population concerned agrees to do this and coöperates. The limits are, on the one hand, the potential fertility of the female population, and on the other the amount of skill necessary to use the simplest birth-control device. Even this lower limit can be still further reduced by compulsory or voluntary sterilisation.

(iv) In most people, emotional factors encourage the production and rearing of children, while economic factors discourage it. Having children in Britain is a pleasure,

but for all but agricultural labourers a bad cash investment. Probably the most important factor in reducing fertility in the middle of the last century was the stoppage of child labour, which turned a large family from an economic advantage into a disadvantage.[3]

An interesting rider on this is provided by a survey undertaken in April, 1942, by the British Institute of Public Opinion. A representative cross-section of the adult population of Britain was asked "What do you think is the main reason why parents nowadays are not anxious to have larger families?"

The results were as follows:—

	%
Economic reasons (46%)	
Incomes too small for large families	26
Can educate small family better	14
Insecurity of all kinds	6
Political reasons (19%)	
War; why bring up cannon fodder?	13
Lack of faith in the future	6
Personal reasons (19%)	
Young people want freedom	12
Too much responsibility and bother	6
People have too much sense	1
Miscellaneous (9%) (including birth-control, lack of state assistance, taxation).	
No comment (7%) (including those saying they do want large families).	

(v) Attempts to make children less of an economic disadvantage—but still a disadvantage—and thus to stimulate reproduction, have failed. In past times and even at present in the lower social groups, whenever children have been an economic advantage, reproduction has increased. This is, however, probably not the only factor; the lower social groups are almost certainly more careless over birth-control technique than the upper groups.

(vi) A falling population has sometimes been regarded as a good thing, because it would cure unemployment. This view is based on a fallacy. The amount of available goods and services for everybody in any community depends on the amount of work which all members of the community do. The larger the community, the more specialisation is possible, and the more there is available for all. The ultimate limiting factor is raw material, and as yet there are no signs of shortage of raw material in the world as a whole. If the size of any community decreases (other than by emigration, which is a spreading of the community rather than a reduction in its size), the amount of goods and services available decreases, and the real standard of living falls. Assuming that the organisation of the community is not changed, unemployment will in fact increase relative to the whole population. A falling population in itself will produce rather than cure unemployment. Unemployment is a sign of bad organisation rather than overpopulation.

(vii) Most reasonable people in Britain, who have thought seriously about the problem, want to see the British race (used in the loose sense to mean those who live in Britain) continue to exist at a population level which does not overcrowd these islands. What constitutes overcrowding is a debatable point. But even those who consider the present population too great agree that there is still much space in the world where people of British stock could live with pleasure and profit to themselves and their neighbours.

7. The following proposals follow inevitably from these agreed facts:

(i) After the war a long-term planned population policy is needed. It is difficult to start such a policy in war-time because the immediate need is for a large body of female labour not incapacitated by pregnancy. But from the point of view of population planning, certain war-time measures should be continued into the peace until they are replaced by something better. These are war-time nursery schools, cheap and free milk and vitamins, and school meals.

(ii) The main point of such a policy must be to make children an economic asset rather than a liability to all social classes of the population. It will be useless merely to make them *less* of a liability (e.g., by increasing income-tax children's allowances which meet *part* of the cost of children). The best ways of carrying this out appear to be:

(*a*) A universal system of adequate family allowances for all non-wage earning children. The cost per year of an allowance of 10*s.* per child per week would be:—

For all children up to 18 years	£300,000,000
For 10% of young people aged 18–21	5,000,000
For 5% of young people aged 21–25	3,500,000
	£308,500,000

The figures given for the upper age-groups assume that 10% and 5% of the population are receiving post-secondary education—possibly an overestimate. The national income in 1941[4] was £6,338,000,000. The cost therefore of this proposal is under 1/20 of the national income. If we decide that to spend or rather redistribute 1/20 of the national income in this way is essential, the question of how the money is raised is of secondary importance. This will be discussed later, as also will the many other advantages which follow from family allowances, apart from their effect on the future of the population (¶ 17–20).

(*b*) A universal system of free education, with equal opportunities for all children, and planned vocational training.

(iii) It is only slightly less important to make children a social asset to all classes of the population. This calls for:—

(*a*) A planned housing policy, so that homes and their surroundings may be suitable for the happy and healthy growth of families of 3 or more children.

(*b*) The provision of nursery schools so that mothers who wish to carry on premarital occupations may do so.

(*c*) An educational campaign throughout the country to popularise families of 3 or more children. It is useless to carry out such a campaign, however, unless all the material factors working against large families have first been dealt with. It is important that commercial interests which may compete against large families should be carefully watched, and if necessary controlled. A "baby car" is an asset for the unmarried or the sterile, but if it is allowed to compete with children, it becomes a danger to a planned population policy.

(iv) Having taken steps to encourage fertility it is essential to study the results. To undertake such studies, it is suggested that a Demographic Research Department should be set up as a part of a national Social Research Council, analogous to the Medical Research Council. The results of such studies should be published.

(v) While every economic and social encouragement should be given to those who want children, the means of avoiding children should also be available to all. It is suggested that if children are a sound economic and social investment, the only people who will not wish to have them will be the feckless, the selfish, the lazy, the psychopathic—in fact precisely the group whom the eugenist would wish to see breeding least. Particularly among working-class men, the use of contraceptives is looked upon with disfavour; it is even thought to cause impotence. Education for the "3 and over" family may therefore be coupled with education in contraception. In particular, the efficacy and simplicity of modern chemical contraceptive technique needs making known to the public generally.

(vi) On the subject of compulsory sterilisation either of mentally defective adolescents on discharge from institutions for children, or of recovered psychotics on discharge from mental hospitals, we express no final opinion. Until more is known of the carriage of defective genes by normal people, and of talent-conveying genes by abnormal people, we consider that it is wiser not to rush in where experts fear to tread.

III. Productive Capacity

8. It is now known that the wealth of a country is not measured by the amount of money, or even gold, that it possesses, but by the amount of goods produced and services performed by its citizens. Even imported goods are ultimately paid for by current exports, by

services in the form of marine transport, or by past exports not paid for at the time by the recipients (capital investments abroad). Our national wealth, then, depends entirely upon how intelligently and how hard we work.

9. In war-time, we divert a great part of our national energy and intelligence to the task of waging and winning the war. We reduce our personal wealth (in the form of the goods and services we each receive) to the lowest level compatible with the efficient waging of war, and devote the surplus to the fighting services and the manufacture of munitions. The limits of our war effort, as this is called, are not financial but physical. We must keep our citizens physically fit for their war work, and mentally content to go on doing it. Every scrap of energy and intelligence beyond that can be, and very largely is, devoted to the war effort. This is brought about by a series of industrial, social, and financial manipulations:—

(i) *Control of industry.*—New war industries are built, and the unemployed population is given work. The output of peace-time industries is fixed, so as to supply the minimal needs of the population, and no more. This is done by controlling the allocation of raw material, and fixing the amount of manufactured goods produced. The excess prewar productive capacity is turned over to the war effort. The creation of new non-war industries is forbidden.

(ii) *Rationing and price-fixing.*—If no steps were taken, the greatly reduced amount of goods available for home consumption would all be bought up by the people with most money. Prices would rise rapidly and shortages would be severe. So the maximum amount of the essential goods each person may buy is fixed (rationing); and the prices of these and also semi-essential goods, as well as rents, are pegged at definite maxima; at the same time, subsidies may be paid to the essential restricted industries to enable them to carry on producing at the fixed prices. As a result nobody can have more than his fair share or spend more than a certain amount. The surplus money in everybody's pockets is removed either forcibly (by taxation) or voluntarily (as national saving). Thus, even if one does not buy war savings but leaves one's surplus cash in the bank, the bank in fact lends it to the Government. Some people may hoard money at home. This does not matter in the least, as it is not diverting energy from the war effort. If, however, after the war we reverted to a free economic system, the sudden spending of this hoarded money might produce disastrous results.

10. The war has taught us that finance is not a limiting factor to our efforts in any direction. The limiting factors are the amounts of raw material, machinery, and labour we possess, and our power to coöperate in their use.

11. At the end of the war, we may have to keep, say, half our war industries going and half our armed services in existence to act as an international police force. We shall be nationally *richer* by the freed machinery and freed man-power than during war-time. But that wealth will be a potentiality only, unless we decide to use it. If we allow our munition workers and service men to be unemployed, we shall be actually poorer. We have overcome unemployment by an enormous armament programme, analogous in some ways to a public works programme, combined with systems of control, rationing, and price-fixing. As a result, some groups of people, in particular those living on fixed incomes, are considerably worse off than they were in peace-time. They will want to revert to a free economy. If we allow them to have their way, we shall repeat the story of 1918 to 1939.

12. More and more people (including members of the Government) consider that controls have come to stay. Our postwar industrial production will have to be planned nationally, to meet first of all the needs of the people and only then the luxuries. Maximum prices will have to be fixed, and subsidies paid if necessary in essential industries. Rationing of goods of which nobody buys more than they need (perishable foods, fuel, &c.) can be dropped as soon as supplies are adequate to meet needs, though, in view of the needs of the occupied territories this may be some time. But some form of composite rationing for clothes, hardware, furniture, and non-perishables will have to go on for a long time. Unless this is done, an orgy of buying will lead first to severe shortages, and then to an orgy of production, followed by a fall of prices and a slump—with a recurrence of unemployment.

13. How are needs to be determined? How are we to decide what to produce? First must come physical necessities:—

(i) Nutritious food. Science can be as dictatorial about nutritional minima in peace-time as it has been in war-time, and adequate food-supply should be an A1 priority.

(ii) Adequate supplies of heat, light, potable water, sewage disposal arrangements, and fresh air. These also are A1 priorities for everybody, but where alternatives are possible, public preferences must be weighed. This itself is a scientific job, and the Government already has machinery for carrying out preference tests—the Wartime Social Survey of the Ministry of Information.[a]

(iii) Preventive and restorative health services. These again are A1 priorities. With them the rest of this report is concerned. While there is much discussion about how these services should be organised, there is less room for discussion in considering what the people need. It must be continually remembered that finance should no longer be regarded as a limiting factor. If the physical means to supply these services are available, cost is no longer an excuse for delay.

(iv) Clothing necessities. The war is teaching us how to distribute the minimal clothing needs fairly. It is also showing how wide a variety is possible inside these minima. Until all basic needs have been met, energy must not be diverted to producing variety only for variety's and profit's sake. Preferences within the minimal need figures can be determined by social survey (see ii above).

(v) Housing, furniture and hardware. In no field is speculative finance more disastrous than in housing. To sell a bad house is to take the edge off the happiness of its successive inhabitants as long as it is inhabited. Men spend long terms in prison for crimes causing far less upset to society. Further, a house always has to be thought of in relation to its environment—its distance from the places of work, education, and amusement of its inhabitants, its distance from shops, its relationship to its neighbour houses. The task of replanning and reconstructing the results of a century of bad building and a few years of bombing is certainly one which could occupy all surplus unemployed for many years to come. But it can only be carried out if private interests are firmly dealt with, wherever they conflict with public interests. The sale of shoddy furniture and hardware is hardly less of a social crime than the sale of shoddy houses. As with clothing, the manufacture of excessive varieties must be prohibited until the basic needs have been met with a limited utility range.

14. Mental necessities are no less important than physical necessities.

(i) Adequate education. This is no place to set out a plan for education. If, however, one remembers that finance is no limitation, the modest proposals of educational reformers during the past 20 years should be regarded as a minimum. Free education for all till 18, with the last 4 years increasingly vocational, should be combined with free university or technical training for those who can profit most from it. The size of the quota entering each faculty must be determined by the national need. It is equally important that the salaries of school and university teachers should be raised to a level nearer to the most lucrative profession—medicine. The care of the child's mind is, one would suggest, even more important than the care of the adult's body. One last word: adult education is only a little less important than child education. Neither need be dull—in fact, if they are dull, they are failing. To everyone, throughout his or her life, food for the mind must be freely available, and nicely graded according to individual capacity.

(ii) Adequate occupation. The deterioration which follows lack of occupation has been adequately enough

shown in the past 20 years for even the most critical scientific observer. Optimal maximum working hours, from the point of view of efficiency and production, have been determined. We go beyond these at our peril. Equally, in the other direction, there is a minimum below which one starts to get "the cameleous hump." The need for adequate occupation for all is merely the other side of the production story. While the essential (and even semi-essential) needs of anyone are unsatisfied, there is no excuse for a system which allows anyone to be unable to find work. We may, if we are sensible, regard refusal to work as a crime against society which deprives the refuser of the rights of the citizen. As for the person whose actions create unemployment, he must receive a little elementary education in economics and civics.

(iii) Adequate recreation. The production of recreative facilities involves the planning of parks and playing-fields, countryside and coastline, theatres and cinemas, clubs and societies, hotels and hostels, transport and communications. For everyone, the minimum must be the easy facility to enjoy all we have to enjoy in Britain—in our countryside, literature, drama, art, music, architecture, sport. Nor must we be rigidly national either in taking or giving these pleasures which life has to offer.

15. From our consideration of the productive capacity of the country, and in particular from the lessons we have learnt during war, the following conclusions may be drawn :—

(i) Since it has been discovered that finance, as such, is no longer a limiting factor in national endeavour, it will only be offered as an excuse for not taking action by the ignorant, the prejudiced, or the wicked. Action must be based on available real resources and priority of needs.

(ii) Available real resources will be greater after the war than during it. There is no need for a return to pre-war poverty, slumps, or unemployment, if we are prepared to impose certain disciplines on ourselves. By continuing to sacrifice some freedoms, which we have willingly sacrificed in war, we can gain greater freedoms than we possessed before.

(iii) As these facts are rapidly becoming common knowledge, it is likely that the public will choose to have a planned and controlled economy, with its corresponding social benefits.

(iv) A planned health service is an A1 priority. The best that the medical and allied professions can provide must be available for everybody. Provided this does not encroach on other A1 priorities we need not count the cost. Since the productive wealth of Britain has never been greater, we can plan if not prodigally at least boldly.

IV. Poverty

16. It is generally agreed that poverty, by which is meant lack of enough money to purchase the necessities of life, is a major cause of ill health and unhappiness. The average height and weight of the poor is considerably below that of the upper and middle classes. The infant-mortality rate and the incidence and death-rates of pulmonary tuberculosis tell the same story. The mental misery caused by poverty—and the fear of poverty—cannot be expressed statistically. The anxiety of the worker for whom unemployment or sickness means lack of food for his wife and children, the anxiety of the mother who cannot buy what she knows her children need, the anxiety of the old person who cannot exist without contributions from his or her children which are themselves producing poverty in the contributors, make up something of the mental results of poverty.

17. The immediate causes of poverty in twentieth century Britain are equally well known. They are :

(i) Unemployment of the chief wage-earner (32%).
(ii) Sickness of the chief wage-earner (9%).
(iii) Insufficient wages to meet family expenses. These expenses depend more than anything else on the number of children in the family (21%).
(iv) Old age (22%).
(v) Widowhood or unmarried motherhood, if associated with inability to work because of children (6¼%). The figures in parentheses are those of Tout,[6] based on a sample of 480 of the 11,000 Bristol families suffering from poverty in 1937. (A miscellaneous group of about 10% completes Tout's analysis.) The distribution of causes will vary to some extent from area to area.

18. It follows that the complementary causes of poverty are :—

(i) Inadequate unemployment insurance and assistance.
(ii) Inadequate sickness benefit.
(iii) The failure of wages to allow for the size of the family.
(iv) Inadequate old age-pensions.
(v) Inadequate widows' pensions and allowances for their children.

19. Absolute poverty causes physical ill health. Relative poverty causes much unhappiness in the income groups outside the absolute poverty classes. Relative poverty may afflict the family of a wage-earner whose income is £1000 a year or more. He may consider it his duty to his children to send them to public schools and universities. If he has 3 sons, they may cost him, for 7–10 years, more than £600 a year. If he, or his wife, have old or sick dependent relatives, he may have to pay another £100 a year. A severe illness in the family with an operation will reduce his income by another £100. As a rule the result will be disposal of savings or debt. It follows that measures aimed at curing the ill health or unhappiness produced by poverty must be applicable to all classes if they are to be effective. Measures which exclude the upper and middle classes provide a high-road to fascism.

20. The cure of poverty follows automatically from a study of its causes :—

(i) There must be a national minimum wage for both sexes which will enable its recipients to purchase all the basic needs for physical health. This, and all subsequent figures, must be initially determined and redetermined at regular intervals by the method of social survey. As immediate postwar national minimum wages, we suggest 20*s.* a week for children under 18, 30*s.* for young people between 18 and 21, and 40*s.* for people over 21.

(ii) To this must be added a wife's allowance where the wife is working domestically. It is illogical that the wage packet of the married and unmarried man should be the same. Equal pay for equal work is a principle deeply ingrained in the British industrial system ; yet it is a principle which is seldom extended to women. In our view, equal *basic* pay for equal work, regardless of sex, should be a universal principle. But the married man with his wife employed domestically should have his pay supplemented by a marriage allowance of, say, 20*s.* per week. It would be unfair that employers should be penalised because they employ a large number of married men, or assisted because they employ a large number of single one. We therefore propose either an employers' marriage allowance fund, into which all employers pay a fixed sum for every person employed and from which they receive the money necessary to pay marriage allowances ; or an extension of the state social insurance scheme hereafter described. Of these two possibilities we favour the latter, since the former might encourage employers to reduce both staff and productivity. Since, however, we consider that family allowances, adequate unemployment and sickness pay, and old-age and other pensions are a much more urgent problem (indeed, marriage in the absence of children does not figure as a major cause of poverty), we shall omit any detailed consideration of marriage allowances from our social security proposals.

(iii) Family allowances for children must be introduced. These have already been briefly discussed in connexion with a population policy. Again, they must not fall as a direct burden on the employer, and a combination of social insurance and Government subsidy should operate.

(iv) Unemployment benefit, sickness benefit, and widows' pensions must be raised to the national minimum wage level. Wife's allowances, in the case of men who are out of work or sick, should continue, as also must family allowances for children in all three cases. Sick-

ness benefit should cover injury or permanent disability, whether sustained at work, at war, or as a result of the negligence of others. It should be separated from any penal element directed towards the persons supposedly responsible for the accident or illness. It should continue until cure or death; unreasonable refusal of treatment or exploitation should, however, be penalised.

(v) Old-age pensions must be raised. In view, however, of the reduced needs of old age, and of the likelihood of both partners being recipients, a figure below the national minimum wage for adults would be reasonable, and 30*s.* a week is suggested—for all as a right from the age of 65 onwards. The cost should be covered in the same way as the other allowances and benefits. An old person who continues to work is making a positive contribution to the wealth of the community and should not therefore be deprived of his pension or part of it.

(vi) In the case of all payments mentioned above, there must be no means test. Contributions must be made by all members of the community, and all must have similar rights. If a means test operates, or if there is any deviation from the minimum rights, the thrifty and industrious will be penalised, and relative poverty will continue to cause misery among those who have done least to deserve it.

(vii) A comprehensive system for the removal of poverty will only work in a community with a high level of production. There will be no room for idlers, slackers, and drones. So far from there being any large volume of unemployment, it may be necessary to penalise anyone who refuses to work. In the past, organised labour has demanded "the right to work." In the future, a system of social security will carry with it "the duty to work." The war is showing that the best method of dealing with the slacker or the absentee is by a committee of his or her fellow workers. We suggest that this system is capable of universal application. Furthermore, we consider that the best method of dealing with the neurotic or psychopath who seeks to exploit the health insurance system is for the patient and doctor both to give evidence before a workers' committee. We think that such committees are likely to arrive at common-sense conclusions which will carry much more weight with the patients than the most highly qualified medical tribunals.

The details of the organisation and finance of this social security scheme for the abolition of poverty will be discussed later (¶ 38–56).

21. We recognise that such comprehensive proposals carry with them a theoretical risk of excessive pampering and paternalism. These dangers have been put forward as an argument against most social reforms in the past hundred years; yet the same people who have put them forward, have often argued that a leisured class, existing on unearned income, is a cultural and social necessity. We consider that the conduct of British people in all social classes in the present war suggests that the virtues of courage, enterprise, and vigour (and indeed a certain number of vices) occur independently of the income level and the measure of financial security. We regard the theoretical risks involved in social security as well worth running.

v. Purchasing Power

22. Our present system of medical practice depends largely on the way the national purchasing power is distributed. Most wage-earners contribute compulsorily to an insurance scheme which enables them to pay for medical attention during the time when they can best afford it—that is, when they do not need it. The dependants of the insured population, having individually small purchasing powers, pay small fees for the medical care they receive. The middle and upper income groups, a relatively small part of the population, have a much greater purchasing power. In return for larger—and indeed sometimes very large—payments, they receive slightly better medical attention. This Robin Hood system as it has been called has a certain rough and ready justice about it. But it will only work as long as the doctors who treat the poor at low rates are able to make up by treating the rich at high rates. If the rich lose their purchasing power, the doctors who depend mostly upon them (but who serve all classes) will be driven out of business. It so happens that this particular group of doctors—the consultant and specialist group—is of vital importance in the chain of curative medicine.

23. Purchasing power is, as it were, the mirror image of productive capacity. A nation can buy only what there is to have in the way of goods and services. If the amount of money available is pushed up beyond the productive capacity, purchasing power does not increase; instead the value of the money goes down. Sometimes the economic machine gets out of gear and the available goods and services exceed purchasing power. Unless purchasing power is then increased by the issue of new money, the value of the goods and services in terms of money falls and a slump sets in. It is extremely probable that in our post-war economy, the Treasury and the Bank of England will see to it that purchasing power keeps strictly in step with productive capacity. It is equally probable that our productive capacity will be greater after the war than it is during it. The total national purchasing power will, therefore, increase. The important point to consider is how will that increase be distributed.

24. Broadly speaking, there are three possibilities:—

(i) Everyone will be richer.
(ii) The poorer will be richer, and the richer the same.
(iii) The poorer will be richer and the richer will be poorer.

There is a fourth theoretical possibility—namely, that the poorer will be poorer still and the richer enormously richer. This can be ruled out, as even if such a situation were to arise temporarily, strikes and labour troubles would rapidly reduce productive capacity and consequently the enormous riches of the rich.

25. We may regard it as reasonably certain that the poor will be richer. The real problem is what is likely to happen to the richer section of the community. The only answer we can give is to study the fate of the rich in a planned and controlled economy. The essence of sound planning is that necessities for all should precede luxuries for any. This will probably be achieved by a combination of:—

(i) Planned production, based on scientific assessment and social survey.
(ii) Controlled prices, with subsidisation if necessary.
(iii) Rationing of essentials in short supply.
(iv) Raising the purchasing power of the poor by:
  (*a*) Minimum living wages.
  (*b*) Family allowances.
(v) Controlled national finance, so that national purchasing power keeps in step with production.

26. There must obviously be considerable Government intervention in the industrial structure. Since the inherent value of national ownership is disputed, it will be more profitable to consider first the minimum amount of intervention necessary for a planned economy. If production is to be planned, the Government must decide what is to be made. It can, however, leave the making to private enterprise, though Government specification and inspection are desirable. If price-control involves subsidy, as is now the case in the food industry, Government wholesale and distributing organisations are desirable if not essential. The control of national finance must aim at the issue of new money to supply the purchasing power for the results of new production, but must limit this issue so that inflation does not occur. If all prices are controlled and rationing covers all goods in short supply, the production of an excess of new money is quite harmless. It cannot be used to force up prices, or to deprive anyone of their needs. Its possessor is unable to spend it, and so either it is hoarded, or it is lent to the Government or to private organisations (banks or

companies) for new capital development. We have postulated a condition where new capital development (i.e., new industrial production) is controlled by the Government, so that an influx of new money will not lead to mushroom industries. In a completely controlled economy, then, inflation is not a danger. It will, however, be a very real danger if price control and rationing are half-hearted. The other important aspect of national finance is the imparting of purchasing power to the Government (supplying the national revenue) for carrying out all its works. In a controlled economy, the methods which have proved successful in war-time would be equally successful. Up to, and indeed over, half the revenue needed to supply the Government needs can be met by borrowing surplus profits and salaries from the public. Some of this borrowing will be from individuals, but most of it will be from banks, corporations, and industrial concerns. The rest of the Government's need will be met by direct and indirect taxation. Though defence expenditure will be considerably smaller, social expenditure will be considerably greater. So we can look forward to taxation continuing at a high level.

27. Since a planned economy does not necessarily involve the abolition of private capital ownership, nor the imposition of taxes heavier than war-time taxes, there is no purely economic reason why the rich should not continue to have approximately the same incomes as in war-time. They are unlikely, however, to go back to peace-time incomes, if only because the Government will continue to be a heavy borrower and will try to keep interest rates low. Further, in a controlled economy, the opportunities for profit by speculation on the stock market will be decreased.

28. There may, however, be political reasons why the incomes of the rich should decline. If widespread nationalisation of essential industries takes place, compensation of owners will probably be with bonds carrying a low interest rate. Further, the economic need for a rich capital-owning class will disappear, and political pressure against the unnecessarily rich will have sound economic backing. Heavier taxation of high incomes will be practical, and may be thought desirable. If this sequence of events takes place, the rich will be definitely poorer in a post-war society.

29. From the point of view of medical planning, we must have a flexible system, capable of providing the whole community with everything medical that it needs, but also allowing the rich to pay more if they want to. Under no circumstances are we justified in saying that the rich shall get better treatment than the rest, because they want to pay for it. Only the best must be available for everybody.

VI. Distribution of Population and Reconstruction of Town and Countryside

30. In the past, the distribution of population has been uncontrolled by conscious planning. It has not, of course, been fortuitous. Industries have developed around raw materials or in suitable climates, and men have followed them. Commerce has centred on good harbours. Market towns have sprung up in agricultural districts. In the past 20 years, a large part of the population has moved south away from the declining heavy industries to the new light industries. But it has all been unplanned: unplanned for strategic safety, industrial efficiency, transport of products, transport of labour to and from work, community life, and health and happiness of the workers, the managers, and the families of both. The result is the most disastrous urban development in Europe. The undoing of the work of the nineteenth century and the first forty years of the twentieth is the biggest task which will face the people of this country after the war.

31. It is no part of our purpose to discuss town and country planning, except in so far as it affects the physical and mental health of the people. With these in mind, we can lay down a series of elementary criteria which must be fulfilled in all new developments:—

(i) There must be adequate accommodation for

(*a*) People who wish to (or have to) live by themselves (probably mainly in flats, flatlets, hostels, or lodgings).

(*b*) Married couples with no children, or very young children (probably mainly in flats).

(*c*) Married couples with children over 2 years (probably mainly in houses with gardens).

(*d*) Older married couples, whose children have left home (probably mainly in flats).

(*e*) The elderly and aged, widows and widowers (in part-service flats or cottages).

The proportions in each group, and the proportions within each group wishing different types of accommodation can be determined for each community by social survey methods.

(ii) Workers must be housed within easy travelling distance of their work. Every hour spent in travelling to work, and every gallon of petrol, is a waste of national productive capacity—that is, of the national wealth. Furthermore, by lengthening the working day, and by spreading droplet infection, it is endangering the national health.

(iii) Everyone must be housed within easy travelling distance of the real countryside. This means smaller cities, no ribbon development, and no suburbia.

(iv) Families must be housed near schools, shopping centres, theatres, libraries, and clubs.

(v) Rooms must be light, sunny, well-ventilated, warm, and sound-proof. There must be an adequate choice for those who like small or large rooms, small or large windows. No-one and no family should be condemned to live in the boxes which pass for rooms in many modern flats—unless they wish so to do. There should no longer be an excuse for inefficient heating when gas, electricity, and piped industrial waste steam (as installed in Detroit and the new Russian cities) are universally practical.

(vi) Every family must have its own lavatory, bath, wash-basin, and kitchen with sink.

(vii) Labour-saving devices must be available to every housewife.

(viii) Flat-dwellers living more than two floors off the ground must have lifts.

(ix) The outside of every building must be planned for beauty and harmony, in keeping with its environment.

32. There can be few people who would dispute the desirability of these criteria. There are no physical difficulties in converting them from paper to reality. The difficulties which stand in the way are our own selfishness, whether we be building society members, tenants, landlords, rate-payers, or members of local or national government. Each of us has interests which might suffer temporarily if thoroughgoing physical reconstruction were put in hand. But each of us, equally, has far more to gain if we are prepared to take a long-term view and act on it.

33. Piecemeal remedies have been tried and have failed. Radical cure is now necessary, and it calls for as much ruthlessness as did the first radical mastectomy. All land and buildings will have to pass into the ownership, or at least full control, of the state; a possible mechanism would be a national land corporation with the present inhabitants becoming the state's tenants and the present owners receiving compensation. Such a national land corporation would have to plan all development, urban and rural, industrial and agricultural, on a regional basis. Socially inefficient property will, in due course, have to be destroyed as ruthlessly as the sanitarily condemned. The scale of demolition will have to be enormous. But if we can bring ourselves to the task, we have before us the opportunity to add to the world's loveliest countryside the world's finest towns.

PART II

Paying For It

VII. Present Methods of Payment

34. It is agreed that the best possible health services, both curative and preventive, shall be available to everyone. It is agreed that the nation as a whole can afford to pay for these services. It is also agreed that lack of capacity to pay shall not deprive anyone of the best. The major problem which must now be considered is how shall the total cost of these services be borne by the community. Before considering the amount of payment, method of payment will be discussed. At the present time money is withdrawn from the community for this purpose in different ways:

(i) By the direct payment of doctor's and nurse's fees, and contributions towards hospital costs. Often the fees extracted are below the market value of the services rendered. This is counterbalanced by the fees charged to better-off patients which are above the market value of the services.

(ii) By insurance payments, made by patients when they are well, patients' employers, and the state, which reach the doctor as capitation fees. The state's contribution is derived from general taxation, direct and indirect, which falls on doctors and patients alike.

(iii) By rates, supplemented by state block grant (again from direct and indirect taxation) which pay for environmental health services, the work of medical officers of health both environmental and clinical, and the municipal hospital services.

(iv) By private contributions to hospitals and other insurances (hospital savings associations, the "Public Medical Service," &c.), and by charitable gifts to hospitals.

(v) By miscellaneous forced contributions from employers (workmen's compensation) and guilty parties in accidents (or their insurance companies), and other minor sources.

(vi) By direct payment out of state funds, to provide the Emergency Medical Service.

35. In favour of these mixed methods it is urged that they encourage efficiency through freedom of choice, as well as individuality. Against them it is urged that they are unjust, inefficient, and unnecessarily costly. It is fair to say that those who favour the present mixed methods usually couple this with the advocacy of additional direct state contributions to the particular type of organisation with which they are associated.

36. If we examine each of these methods of payment, we find substantial agreement on the following points:

(i) The *direct payment of fees*, whether these cover costs or are a contribution to cost, falls on the patient when he or she can least afford it. Even among the small proportion of the population with incomes of over £1000 a year (before the war, approximately 1·5% of the total incomes), surgeon's bills and nursing-home fees add to the anxieties of illness.

(ii) The direct payment system retains a certain measure of popularity both among doctors and patients, for the following reasons:—

(*a*) It gives doctors a sense of dependence on themselves and their own abilities, and of independence from the state or any wage or salary paying organisation.

(*b*) It makes doctors feel that the harder they work and the greater their skill, the more they earn.

(*c*) Many also feel that the abolition of the direct payment system would substantially reduce their incomes.

(*d*) It gives patients who can afford it a sense of satisfaction and independence at being able to purchase medical aid with as little interference as they purchase a suit of clothes.

(iii) The sense of independence both among doctors and patients is a healthy phenomenon. It is, however, retained to a large extent under the panel system as also is the relationship between amount of earnings and amount of work.

(iv) The *panel or insurance* system has the serious disadvantage that it does not cover the dependants of wage-earners, or the upper and middle income groups, nor does it provide specialist or institutional treatment for its subscribers. These are defects of scope rather than inherent defects. On the other side, it has much to its credit:—

(*a*) Though the "free choice of doctor" is largely illusory, nevertheless it is felt by both doctors and patients to exist. The knowledge that patients *may* leave, if they wish, helps to keep the less conscientious doctor up to scratch. From the patient's point of view, a doctor—or a hospital—chosen, or felt to be chosen, is likely to excite greater faith than one imposed. It is worth pointing out that initial freedom of choice is much less important than freedom to change later. "You don't know a rotten apple till you've bit it."

(*b*) The actual weekly payments by the patient are a strong factor in retaining self-respect. The panel is not a free service but a mutual benefit arrangement, in which services received do bear a relation to payments made.

(*c*) The panel does succeed in allowing the cost of sickness to be borne during the time that the patient is fit.

(v) The main disadvantages of the panel system (apart from its limited scope already mentioned) are:

(*a*) By levying a contribution from employers, it acts as a tax on industry, and acts in some measure as a deterrent to industrial expansion.

(*b*) The cash and other benefits given by the different approved societies are extremely unequal and the sickness benefit in no way approximates to a living wage.

(*c*) Approved societies have been found to be as wasteful a method of administering public funds as any yet devised. In the period 1934–37 the Ministry of Pensions scheme distributed £42 million, at a cost of £0·75 million. The various societies and insurance companies had the following record.

	Benefits distributed (million)	Administrative costs (million)
NHI	£33	£6
Workmen's compensation ..	£9	£4
Industrial insurance ..	£33·5	£22

(*d*) The approved society collectors are presented by the state with a right of entry, and consequently an opportunity for touting, in every working-class household.

(vi) *Rates* as a method of payment for any service have little to commend them. In their favour, it is stated that they serve to stimulate local interest in local government, and they have the advantage of familiarity. The case against them is as follows:

(*a*) The richer a community, the more it can afford to pay in rates, but the less it needs the services which the rates supply. Conversely, the poorer a community, the less it can afford to pay in rates, but the more does it need the rate-paid services. Rates, then, are a basically unfair form of community taxation.

(*b*) Rates are based on the value of the home or property, and are roughly proportional to the rent. The poorer the person, the greater the proportion of his income which goes in rent, and consequently the greater the proportion which goes in rates. Further, the larger the family, the larger the house, and consequently the larger the rates. Rates, then, are also a basically unfair form of individual taxation.

(*c*) If a property is improved, its rateable value is increased. Hence, rates are a tax on enterprise, and inhibitors of improvement in environmental conditions.

The central government has attempted to mitigate the evils of rates, in peace-time, and to a greater extent in war-time, by the system of block grants out of national funds. These have enabled some poor communities to have certain necessary services which they would not otherwise have been able to afford. But the essential injustices of rates remain.

(vii) *National taxation* and *national credit* are the most efficient sources. The *income-tax*, in spite of its unpleasant associations and some technical deficiencies, is the fairest method of taxation so far devised. Deduction at source was a great advance. Its only substantial disadvantage is the lack of connexion in the mind of the payer between his contribution and the services he

receives in return. The super-tax and death duties are merely an extension of the income-tax principle. Indirect taxation—purchase tax, customs duties, &c.—should be regarded rather as a method of restricting consumption than as a source of revenue. In the interest of good citizenship, indirect taxation should be avoided altogether as a source of revenue. In a democratically mature society, the tax-payer should be clearly aware of how much tax he is paying. National credit provides the Chancellor of the Exchequer with a convenient method of controlling the national income to the national advantage.

(viii) *Private insurance arrangements*, either in the form of hospital savings associations or private companies offering health insurance are costly in collection, of varying degrees of efficiency, and usually cover only *part* of the cost of treatment received—often to the distress of the patient when he discovers this.

(ix) *Workmen's compensation* is an attempt to saddle employers with the cost of maintaining employees suffering from the effects of occupational accidents. In fact, employers insure themselves to cover the risks they run, and compensation often operates against the interest of the workman it aims to help. Its whole emphasis is on cash compensation rather than recovery. At present, the only substantial gainers are the insurance companies. In any complete system of health insurance, workman's compensation would be unnecessary. The employer who neglects safety devices—or the motorist who drives to the danger of the public—should be dealt with by the ordinary processes of the law.

(x) *Charitable contributions* are quite inadequate to maintain any complete health service. As a major source of income they have the following disadvantages:

(*a*) Contributors often give most generously to those institutions which have prominent sites—and are forgetful of those situated in poor parts of our cities, or in rural areas.

(*b*) Sentiment rather than reason often induces contributions. The blind, children, and animals are widely supported; the chronic sick, the senile, and the neurotic seldom.

(*c*) Givers of large gifts often prefer to erect new buildings rather than to endow existing ones. Yet in all enterprises, it is the people who work in the buildings rather than the buildings themselves which matter.

To these practical disadvantages, it is sometimes added that the flavour of charity is repugnant to its recipients, and damaging to its dispensers. The evidence on these points is strongly charged with emotion. We, however, do not feel strongly. If rich people continue to exist, and if rich or poor wish to make gifts towards the cost of the national health services, we think these should be gracefully and gratefully received. But the giving of gifts should confer no rights on the donor; indeed, a gift which conveys a right bears little relation to charity, at any rate in the Christian sense. The sale of the office of governor of an institution, in return for a contribution of a minimum size, should be discontinued.

37. As a rider on the present situation, the following example from the practice of a North country GP may be quoted:—

I have one family who is attended under the following heads: the father is an NHI patient, the mother has always been a private patient and prefers this, the children are attended under the Public Medical Service (the parents felt they could not afford bills for the probable bouts of infectious illnesses), and there is an old man in the same house attending under an old club scheme (the Free Gardeners). All patients in this variegated collection actually get the same attention. The children are examined at school and sometimes get advice at the school clinic (until recently no note of this was ever sent to me); they also get dental and ophthalmic treatment through the school. The father's approved society is "broke," so he and the mother have to pay for their own dental and ophthalmic treatment. The old man is toothless and has been for a long time, and does not care for reading, so this problem does not worry him. The family subscribes to the two local voluntary hospitals, but if any of them have skin complaints, they have to go to the municipal hospital, as neither voluntary takes skin cases. The father also subscribes to an ophthalmic hospital outside the town and an orthopædic hospital in London; this is quite unnecessary as both local voluntary hospitals have efficient ophthalmic and orthopædic departments.

VIII. Paying in the Future

38. The ideal method of payment should have the following characteristics:—

(i) Members of the public should have the feeling that they are themselves paying for the services they receive; and they should have a measure of freedom in choosing who shall give them these services.

(ii) Doctors should retain, as far as possible, the feeling of dependence on their own efforts, and of independence in their relationship with the state.

(iii) All classes should be able to pay for services when they are well, and should be freed from the burden of payment during and after illness.

(iv) Payments made during times of health should cover all services needed at any time.

(v) There should be no question of persons wishing to pay private fees at the time of illness receiving preferential treatment over patients being treated on an insurance basis.

(vi) At the same time, some people in the upper income groups do wish to continue private contract for medical treatment. It should be possible for such people to opt out of a part of any national insurance payment, and so cease to be entitled to medical benefits.

(vii) The amount of insurance payments should be based on capacity to pay—i.e., on some income assessment.

(viii) The burden of health services should be removed from the rates.

(ix) The nature of the payment should be as simple and as comprehensive as possible.

(x) There should be no levy on employers or on any other isolated section of the community.

39. It is therefore proposed that every wage-earner, salary earner, or person in receipt of any form of earned or unearned income, should compulsorily pay a single *social security insurance contribution*. In return he or she should be provided with:—

(i) Complete treatment for all forms of sickness, including rehabilitation and if necessary training in a new occupation, until recovery, for the contributor and all his dependants; the contributor to be free to choose his own home doctor. Persons earning over £500 a year should be permitted to opt out of ½ of their contributions, being then no longer entitled to medical benefits.

(ii) Provision of specific prophylactic measures for the contributor and all his dependants, as well as such advice and supervision as is necessary to maintain positive health.

(iii) Adequate cash sickness benefit for the contributor until he or she returns to work. A provisional figure would be £2 a week for a single man or woman, or man whose wife is employed, and £3 a week for a married man whose wife is occupied domestically. Adequate family allowances would make additional payments for children unnecessary, though maternity benefit should continue, and should be supplemented by benefits in kind. To discourage the unnecessary use of hospitals and institutions, patients should contribute from their cash sickness benefit the cost of their home maintenance, say 7*s* 6*d*, or 10*s* a week. Safeguards against abuse will be discussed later (¶ 49–56).

(iv) Adequate cash unemployment benefit, on the same scale as sickness benefit.

(v) Adequate old-age pensions, and pensions for widows on a similar scale.

(vi) Burial allowances of £20 to the nearest relatives of all persons dying. There is much to be said for a nationally owned and operated funeral, cemetery, and crematorial service; at the least, drastic price-regulation of existing services should be introduced.

(vii) Adequate family allowances, at a minimum rate of 10*s* a week for every child who is not earning, including orphans.

40. In no circumstances should means tests operate. Otherwise the scheme ceases to be an insurance and becomes instead a state dole. Further, a means test

discourages thrift and individual enterprise; and it transfers the burdens which insurance schemes seek to avoid to the shoulders of others who may themselves then be reduced to the poverty level. Only by such a complete social security insurance scheme will the evil effects of poverty on mental and physical health be abolished. At the same time, there should be an upward operating "Needs Test," to permit supplementary or extraordinary payments in special circumstances.

41. It is proposed that payments should be graded according to incomes. A basis for such grading is provided by the Ministry of Labour's family budget survey [8] of 1937–38:—

(i) In 8905 industrial and commercial working-class households, averaging 3·77 persons per household, the average total weekly expenditure was 85*s*. Of this, the following figures were relevant to the present inquiry:

	s	*d*	% of total expenditure
Doctor, dentist, nursing, medicine, &c.	1	8	2·0
National health, pensions, and unemployment insurance	2	0¾	2·4
Other insurances and pension funds (excluding trade-union subscriptions)	2	4½	2·8
	6	1¼	7·2

(ii) In 1491 agricultural working-class households, averaging 3·79 persons per household, the average total weekly expenditure was 57*s* 4*d*. The comparative figures with those given above are:—

	s	*d*	% of total expenditure
Doctor, dentist, nursing, medicines, hospital funds, &c.	1	2½	2·1
National health, pensions, and unemployment insurance	1	7¾	2·9
Other insurances and pension funds (excluding trade-union subscriptions)	1	5¼	2·5
	4	3½	7·5

(iii) One other cost in these family budgets would in fact be covered by a social security payment—namely, that portion of the rates which covers municipal health services, poor relief, and education. The average payment in the industrial group on "rents plus rates" was 10*s* 8*d* (12·5%). In the agricultural group it was 4*s* 9*d* (8·3%).

The Bristol Social Survey [9] shows that the average breakdown of the 10*s* 8*d* "rent plus rates" figure is 2*s* 4*d* ordinary rate, 4*d* water rate, and 8*s* rent. From the figures given in the annual report of the Ministry of Health for 1938–39,[10] it can be calculated that of the 2*s* 4*d* ordinary rate, 3*d* goes towards local authority health services and 3*d* towards poor relief. Thus an additional payment of 6*d* a week (or 0·6%) can be added to figure for health and insurance expenditure in the industrial group. Assuming that a similar percentage of agricultural expenditures is disposed of thus, the total percentage figures are:—

	%
Industrial	7·8
Agricultural	8·1

42. We can assume therefore that a social security insurance contribution not exceeding 8% of the income would not impose an appreciably greater burden on the wage-earner than the present arrangement. Since however it would give greatly increased benefits including family allowances, a payment approximating to 10% would probably be accepted. Such contributions should be free from income-tax.

43. Bearing in mind that the smaller the total income, the greater is the burden of a percentage payment, the following rates of payment are proposed.

Income level per week						Payment per week	
£	*s*	*d*	£	*s*	*d*	*s*	*d*
1	0	0	—1	9	11	1	6
1	10	0	—1	19	11	2	6
2	0	0	—2	19	11	3	9
3	0	0	—3	19	11	6	0
4	0	0	—4	19	11	8	0
5	0	0	—5	19	11	10	0

Income level per year				Payment per quarter		
£	£	*s*	*d*	£	*s*	*d*
300	—349	19	11	7	8	0
350	—399	19	11	8	15	0
400	—499	19	11	10	0	0
500	—749	19	11	12	10	0
750	—999	19	11	16	5	0
£1000 upwards a year				25	0	0

44. Each individual should decide whether he wishes to make his payments weekly, monthly or quarterly. Changes in methods of payments should be allowed only once a year. It should be possible for anyone wishing so to do to increase his contributions by a set percentage, say 25%, and in return to receive an extra degree of privacy when undergoing institutional treatment and exemption from clinical demonstration. Similarly a voluntary increase in contributions of 25%, 50% or more should entitle the contributor to correspondingly increased benefits and pensions. People with existing private insurance arrangements should be allowed to transfer their policies to the National Social Security fund, if they wish to incorporate existing premiums into social security premiums.

45. Payments should be made by the purchase of stamps. The stamps should indicate clearly the nature of the transaction; thus, they should bear the words "Social Security Insurance—Health—Unemployment—Old age—Family." New stamp books should be issued annually, on receipt of the previous book fully stamped, and certified correct by the employer. Different coloured stamps would be issued free during periods of sickness or unemployment to show that the holder was excused payment. Benefits should only be issued on production of the book fully stamped to date; the one exception to this would be medical emergency benefit. In the front portion of the book, or (in view of the secrecy with which many people like to surround their incomes) in a separate book, should be a space in which the employer should enter the amount of wages or salary at the time of payment; those living by fees or income from other sources should enter the figures themselves, false entries to be punished by heavy penalties. When the stamps were purchased, this statement of current income should always be produced.

46. The funds thus collected should be handled by a statutory National Social Security Board, similar to the present Assistance Board, whose work, funds, offices and staff it should take over. It would also absorb the Ministry of Labour's department for unemployment insurance, the pension and insurance work of the Ministries of Health and Pensions, and the work of the approved societies. The minister responsible for the policy of the board in its broadcast outline should be the Minister of Health. He should, however, have no control of or responsibility for day-to-day working. As soon as possible, the Social Security Board should open offices throughout the country, as widely diffused as post offices; Assistance Board offices would provide a nucleus for these. The offices should both sell stamps and issue cash benefits. Pending their establishment, both these functions should be performed by post offices.

47. Unemployed persons seeking benefit should require to have their income records stamped at employment exchanges or bureaux. For the sick, medical certificates would be required. For family allowances and old-age pensions, birth certificates would be required in the first instance.

48. We attach great importance to the type of officer in charge of such Social Security offices. Such officers should be, as far as possible, trained social workers. Anything smacking of poor relief, public assistance, or the dole, should be got rid of. The atmosphere should be that of a people's bank or a mutual insurance office, where, in addition, the complexities which confuse the

simpler citizen in the modern world can be straightened out. They should also be centres of local social intelligence, both collecting and giving out information. They would thus serve to keep the board in touch with the problems of the public, and the public informed of the services available.

49. The board should be administered on a regional basis. Local advisory committees in each local authority area, with representatives of local authorities, local political parties, trade-unions, and other groups, would form a further link between the board and its public. These committees might well play an important part in arbitrating on doubtful cases, whether unemployed or sick. The committee might, however, delegate its functions in this respect to a small arbitration tribunal of 3, a chairman and a workers' representative from the committee and representative of the Social Security Board. Such an arrangement has worked well in the organisation of the Assistance Board.

50. The *method of arbitration* proposed would be substantially the same whether the doubtful recipient was unemployed or alleged to be sick. If he persistently refused to work in spite of the offer of work, or continued to simulate ill health when in fact he was fit, the employment exchange manager or the doctor in whose care he was, should notify the Social Security Board officer. He or she would investigate the social circumstances, if necessary by a home visit, and should then bring him before his local tribunal. In a medical case, a medical assessor should assist the tribunal, which should be furnished with a medical report from the patient's doctor. The worker going before the tribunal should be permitted to take a representative to speak for him. The tribunal should have before it a report from the employment exchange, the previous employer, and the social worker of the Social Security Board. In medical cases, a medical report would replace the first two. The tribunal would not have the power to reduce benefits (as these are intended to be based on the cost of living). Its power would be to give a *direction* as to work. Failure on a worker's part to follow such a direction to work would render him liable to be brought before a county court or a stipendiary magistrate's court, and punished. Such punishment would automatically deprive the recipient of his benefits, leaving, however, his dependants unaffected. The worker's refusal to work would thus constitute an appeal to a legal authority who would have to hear both his case and the case of the tribunal. An official of the Social Security Board wishing to mitigate a ruling of a tribunal should be able to appeal to his or her regional chief.

51. The position of the partially disabled person has still to be considered. The completely disabled person will be adequately covered by the sickness benefits of the Social Security service. Partial disablement may arise from illness (e.g., tuberculosis, cardiac disease, arthritis), or accident (on the road, in the home, at work, or in the Forces). At present financial assistance for partial disablement bears little or no relation to needs. Its source may be from a Service pension, an employer's or a motorist's insurance policy, the pocket of a private individual against whom damages are given in the courts, or public assistance. Victims of accident are, as a rule, in a better position than victims of disease. The aim of the Social Security service must be to maintain the patient and his family until he is fit for work. The aim of a national medical service must be to make every patient, whether sick or injured, fit for work. But there will still be a certain number of patients, fit for light or special work on short hours, who will never be able to take up their old occupations.

52. The social problem presented is that of training and placing in suitable work, a task which might well be linked with that of physical rehabilitation. The disputed question of the special colony or settlement as opposed to the open field of labour will be considered in a later section. The monetary problem, we propose, should be solved in the following manner.

53. If the worker's salary in his new occupation is less than his previous salary, it should be supplemented by a grant, its amount being the difference between his old salary and his new one, with, however, a maximum grant of the total of full weekly sickness benefit. At the end of a year his position should be reviewed, both as to degree of any further recovery and amount of grant—the same principles as before being applied, after allowing for any increase in salary which may have occurred. Thereafter the grant should be stabilised, so that further increments in salary may lead to a true increment in earning. The partially disabled worker will thus be helped over the difficult transitional period, and once the grant has been stabilised, he will have a financial incentive to become a productive and useful citizen.

54. The risk of exploitation by the compensation hysteric will still exist, but a properly organised rehabilitation service, including a psychiatric rehabilitation service, should greatly reduce this. It is, however, important that justice should be done to every genuinely disabled and partially disabled person, even if a certain number of hysterics gain thereby. Incidentally, the recurrent prospect of the physically fit hysteric appearing before a tribunal of his social peers is likely to have a healthy deterrent effect.

55. An examination of these proposals reveals a number of advantages :—

(i) Sickness would have no advantage over unemployment as a source of income. So if a person had no work waiting for him, continued sickness would have no cash incentive.

(ii) The criterion for action would be in all cases refusal to work when physically fit.

(iii) The decision would be taken by a committee or tribunal of the workers own peers, and as such would be more likely to be generally accepted than any that a medical or legal panel might make. Tribunals would rapidly acquire skill in identifying scrimshankers. At the worst, when a worker had appeared before them on two or three occasions persistently refusing to work, they would begin to see through him.

(iv) The whole of workmen's compensation, with its burdens on employers, its injustices to workers, and its openings for exploitation, would lapse.

(v) The whole of public assistance, poor relief, and unemployment assistance, with its social stigma of the dole, charity, and the rates, would vanish.

56. In practice, at the end of this process, there would remain a small body of men and women, probably mostly psychopathic, who preferred gaol to work, at present termed unemployables or tramps. It is a difficult matter to decide whether these should be coerced into colonies where they may contribute at least some labour towards their cost to the community, or should be allowed to pursue their way around the country from casual ward to casual ward. Since we believe in the liberty of the subject—even to the "hobo"—we favour the continuance of a limited number of casual wards, supported not from the rates but from Social Security Board funds.

57. Before closing this account of our proposals for paying for health and social security, we must mention an alternative method which has been suggested—namely, a specific addition to everybody's income-tax payments. In favour of this, it is pointed out that :—

(i) The machinery of collection already exists; to build up a duplicate machine is unnecessary.

(ii) Deduction at source reduces to some extent the pain experienced in direct tax payments.

(iii) While the odium which surrounds the income-tax is admitted, our aim should be rather to clarify in the public mind the link between tax payments and services received, than to construct an alternative to avoid that odium.

(iv) Income-tax is, in fact, even more fair than the graded payments proposed as its rise is gradual and not in a series of steps.

58. Against the proposal, we set the following:—

(i) The unpopularity of income-tax arises in part from the elaborate machinery devised to make it completely fair. It is only by payment on one's previous year's earnings that the individual obtains maximum allowances. Our proposal of current weekly payments, fluctuating with current earnings, is likely to be more welcome to the wage-earning public.

(ii) The mere fact that payments were made *to* the same place *from* which benefits are received would have great educative importance. We think that money paid into the National Exchequer pool, no matter how much educative publicity there is, will never be as closely linked with benefits received as under a more direct national insurance arrangement.

(iii) If the health and security funds are to be derived entirely from the Exchequer, the dangers of Treasury control will be greatly increased. The universities have not lost their autonomy by deriving two-thirds of their income from the Exchequer. The assistance board, on the other hand, is virtually a part of the civil service.

For these reasons, we reject the alternative proposal of a specific addition to income-tax payments.

IX. The Balance-sheet

59. The national balance-sheet for the health and social security services must be largely an affair of estimates for no exact figures are available for many of the items. It is easier to estimate the volume of financial disbursements under a revised social security service than the cost of an adequate medical service. The assumptions on which the latter are based are as follows:—

(i) There will be no great change in the *average* untaxed incomes of doctors.

(ii) There will be a considerable increase in the *average* rates of pay of nurses.

(iii) There will be a very considerable capital expenditure on new hospital and institutional construction.

(iv) There will be a reduction in all running and administrative costs as a result of large scale planning and organisation.

60. The balance-sheet given consists of five parts:—

(i) The approximate total cost of the medical services, excluding the environmental health services, such as housing, water-supply, and sewage, in the year 1938–39 (about £160 million).

(ii) The total cash disbursements for sickness in the same period (about £43 million).

(iii) The cost of unemployment and other social relief services in the same period.

(iv) The estimated cost of a complete medical and social security service as described previously.

(v) The yield of the measures proposed to meet this cost.

(i) *Present annual cost of the medical services* (1938–39)

	£ million
Voluntary Services	
Hospitals	17
Convalescent homes	2·2
Homes for chronic sick	·3
District and other nurses	2
Other voluntary institutions and services	1·8
	23·3
Municipal Services	
General hospitals	7·5
Fever hospitals	4·2
Tuberculosis services	4·8
Mental hospitals and mental deficiency institutions	14·5
Venereal services	·5
Maternity and child welfare services	4
School medical service	5
Poor law medical service	8
Other services	3·5
	52
Doctors' fees and salaries	
National health insurance payments	8
Salaries (apart from those paid by hospitals)	2
Private fees	38
	48
Dentists' fees and salaries	10
Masseurs' fees and salaries	2
Patent medicines	20
Dispensed medicines	5
	37
	160·3

(ii) *Present annual cash disbursements for sickness* (1938–39)

	£ million
National health insurance benefits	18
National health administrative costs	6
Workmen's compensation payments	12
Private sickness insurance	7
	43
Total annual health bill (excluding purely environmental services)	203·3

(iii) *Present annual cash disbursements for unemployment and other social relief services* (1938–39)

	£ million
Unemployment insurance	62
Unemployment assistance	36
Public assistance	46
Widows', orphans and old-age contributory pensions	49
Non-contributory old-age pensions	48
	241
Total annual "social security" bill (including health)	444·3

(iv) *Estimated annual cost of proposed national medical services*

	£ million
Present cost	160·3
Additional cost of nursing services	40
Additional capital expenditure on new building	40
Saving due to large-scale buying and improved administration	less 10
	230·3

Estimated annual cost of proposed social security services

Sickness benefit (assuming no change in amount of sickness)	82·5
Unemployment benefit (assuming 500,000 unemployed and ¾ of them married)	70
Old-age and widow's pensions (assuming 3·5 million old people over 65 and 0·75 million widows)	351
Family allowances	308·5
Burial allowances (assuming £20 per head for 500,000)	10
	822
Proposed annual total health and social security bill	1052·3

(v) *Estimated annual yield of proposed social security contributions*

Weekly wage						Weekly contribution		Persons	Total of contributions
£	*s*	*d*	£	*s*	*d*	*s*	*d*		£
1	0	0	—1	9	11	1	6	1,734,600	6,764,940
1	10	0	—1	19	11	2	6	2,649,400	17,221,100
2	0	0	—2	19	11	3	9	1,395,500	13,606,125
3	0	0	—3	19	11	6	0	10,269,100	160,197,960
4	0	0	—4	19	11	8	0	599,600	12,471,680
5	0	0	—5	19	11	10	0	900,000	23,400,000

Annual salary	Quarterly contribution	Persons	Total of contributions
£	£		£
300 — 350	7 8 0	250,000	7,400,000
350 — 400	8 15 0	152,000	5,320,000
400 — 500	10 0 0	70,000	2,800,000
500 — 750	12 10 0	760,000	26,000,000
750 — 1000	16 5 0	160,000	10,400,000
1000 and upwards	25 0 0	310,000	31,000,000
		19,010,200	316,581,805

Assuming that half those earning over £500 per annum elect to deduct ½ of their premiums, so as to arrange privately for medical treatment, £8,425,000 must be deducted—

less £8,425,000 = £308·7 million.

x. Bridging the Gap

61. Figures so colossal as these mean little in isolation. They must be seen in the perspective of the total national income. The national income is defined as the money value of all the goods and services received by the people of the country each year. It is a money measure of the wealth of the country in terms of energy expended, apart from raw material possessed. In fact the acquisition of raw materials invariably involves the expenditure of energy—either in mining or growing them, or in manufacturing articles which may be handed over to those mining or growing them in exchange.

62. Before the war, our national income was roughly 4½ thousand million pounds. Since the war, it has increased by over 1¾ thousand million. This does not, however, represent an increase in real wealth, since nearly 60% of our goods and services are being used to defend the country rather than enrich it. Perhaps 3½ million people are devoting their time entirely to active war service, and at least that number to the production of munitions; against this, about 1½ million unemployed people are now at work, as well as a very large number of previously unoccupied women. In addition, all those who are working are probably working a little, but only a little, harder. Lease-lend food and other material is also adding to our national income at no effort to ourselves. The cash value of this effort does give a measure of potential national income if it were all applied to peace-time purposes, though one must allow at least ¾ thousand million for rise of prices and inflation.

63. Our proposed health and social service scheme costs about 1000 million, or under ⅛ of our present nominal or potential real national income. Even if this were a withdrawal from the national income, a total loss as it were, we consider it is not an excessive price to pay for the abolition of poverty, and economic and medical insecurity. But it is *not*, in fact, a withdrawal from the national income but an orderly redistribution within it.

64. Our proposed social security contributions would yield about 300 million pounds. The remaining 700 million would have to be met by direct contribution from the Exchequer. It is worth noting that between 1926–38, 63·5% of all state income maintaining payments (under national health insurance, and unemployment, war and other pension schemes) was met out of taxation and not by the contributors.[11] We propose that the figure should instead be 70%. It is worth reiterating here the reasons why the whole sum should not come directly from the Exchequer; we consider that there should be a direct link in the minds of everyone between contributions paid and benefits received, and because the corporations should be free from detailed Treasury control.

65. The finding of this 700 million presents considerably less difficulty than the financing of the British national war effort; 11 million per day are being spent directly on war purposes; 700 million per annum is something under 2 million per day.

Part III

Running the Show

xi. Principles of Administration

66. The scientific study of administration is in its infancy. Scientific methods are more easily applied to material objects than to sociological ones. As a result, technical achievements have outstripped administrative organisation in local, national, and international spheres. In spite of this, technicians who have been forced to work in large organisations have remained inferior in status to the administrators. Science begins by observation and the classification of experience. Our proposals for health administration will be preceded by an analysis of past experience in both administrative and technical organisation. All new administrative proposals should be regarded as scientific experiments, and ours are no exception. Each phase of their operation should be watched carefully and modified or altered as proves necessary.

67. In past times, in Britain, laws were made by the nationally elected legislature, applied by the permanent executive, and interpreted when necessary by the independent judicature. This worked well as long as laws prescribed only conduct. In recent years, however, they have increasingly prescribed services to be performed by the state for the community. In the prescription of services, the legislature cannot do more than lay down principles which it wishes to be applied. In the application of these to individual cases, decisions have constantly to be made and rules of behaviour laid down. Such rules cannot be appealed against before the judicature unless they conflict with the principles defined by the legislature. Such rules are described as "legislation by the executive." Since this is a cumbersome phrase we propose to describe it as "direction."

68. No-one who has had much experience of large administrative machines denies that direction is necessary inside a broad policy. The disputed question is rather who should give the direction. At present, it is given in four main ways:—

(i) By an executive Ministry of State, immediately responsible to Parliament, acting directly.
(ii) By the same, acting through locally elected authorities.
(iii) By a statutorily appointed public corporation.
(iv) By a coöpted or created commercial company or private body—e.g., the insurance companies involved in the National Health Insurance Acts.

69. Each of these has worked well on occasion though each has disadvantages. The directly democratic nature of direction by ministries responsible to parliament, and by elected local authorities have made these methods popular in Britain. But as the technical and organisational complexities of the services to be supplied have increased, local units have been found to be increasingly inefficient. Further, day-to-day inquisition by Parliament into the minute direction of ministries of state has resulted in an over-cautious playing for safety on their part, besides a cluttering up of parliamentary time. Finally, excessively democratic institutions tend to breed an excessive profusion of directing committees. For these reasons we favour for health administration a statutorily appointed public corporation, subject to periodical parliamentary review, with its governors appointed by directly elected ministers of the Crown.

70. In internal structure, any large organisation is subject to a series of mutually opposed forces, on the nice balance of which its efficiency depends. These are:—

(i) The technician *v.* the administrator.
(ii) Parallelism *v.* hierarchy.
(iii) The individual *v.* the committee.
(iv) The centre *v.* the periphery.
(v) Uniformity *v.* diversity.

71. The pull between the technician and the administrator is strikingly illustrated in the civil service. In the Ministry of Health, the doctors and engineers have remained ultimately subordinate to the pure administrators. Similarly, in municipal hospitals, clinicians are subordinate to administrators, though often these administrators have previously been clinicians. For this reason, the best technicians have often refused to serve in such organisations, and those who have served have become frustrated and disillusioned. We think that the answer to this problem is to be found in a study of parallelism and hierarchy.

72. Parallel organisations are those in which authority (or a great part of it) is divided among many persons of equal rank. Hierarchical organisations are those in which authority is concentrated in one pair of hands, below which are others, having again others below them. In practice, neither exists in pure form; even the most parallel organisations have some measure of hierarchy and vice versa.

73. Broadly speaking, the more automatic a job, the greater must be the degree of hierarchy. A clerk adding up figures, a mechanic working a mass-production machine, or a typist copying shorthand must be supervised—not always, or indeed often, to check the actual performance, but to allocate the work to be done. Similarly, the more creative a job, the greater must be the degree of autonomy, which can only be obtained by parallelism. A hierarchy of artists need only be mentioned to demonstrate its absurdity. Yet an organisation of artists, whether for the holding of exhibitions or the production of a Walt Disney cartoon, is a practical proposition. An organisation of technicians may necessarily be hierarchical, for example the teams necessary to build a spitfire or remove a cerebral tumour. But most of the practice of medicine is still the application of individual judgment to the individual case. And, as long as this is so, parallelism as a dominant feature is desirable. But while parallelism among practitioners should be the rule, it does not follow that it is the final word in the medical administrative set-up.

74. Some of the inherent advantages and disadvantages of the two forms of organisation will now be considered in turn:—

The *parallel organisation*—

(i) Opportunities of occupying senior positions, with a large measure of responsibility, are greatly increased. The chances of getting such a position at a relatively early age are also greatly increased. As a result, the presence of one able man in an organisation does not discourage others from entering it. Responsibility is achieved before age has sapped initiative and converted enthusiasm into disgruntlement with superiors. And a wide range of talent have the chance of liberal and varied expression. The merits of competition, such as they are, are also given free but not destructive play.

(ii) In organisations where members are required to display individual responsibility to others, it is particularly important that they should not be denied that responsibility themselves. To expect a person to bear the full weight of the troubles of others, while denying him the right to stand upright and foresquare himself, is as unwise in theory as it is unsatisfactory in practice.

(iii) By the parallel system of organisation, the dangers of bad appointments are minimised.

(iv) In all human communities, there are squabbles, bickering, and ill-feeling. Among equals these are less damaging to others, and less likely to lead to warping of character, than among superiors and inferiors. In hierarchies, the dissatisfied junior will appeal in the last resort to authority above his senior in the hope of displacing or replacing him. Thus, the apparent stability of a hierarchy is continually menaced, or, in minor key, administrative channels may be continually blocked by personal animosities. In a parallel organisation, the fact that two seniors are not on speaking terms is of relatively little consequence.

(v) The largest disadvantage of a parallel organisation is a certain difficulty in pure administration. Thus, it may be difficult to arrive at a policy decision, and once it has been arrived at, it may remain distasteful to some of the parallel seniors; their refusal to implement it is rendered easier by the absence of hierarchical control. This advantage may be reduced by placing administrative responsibility on one member of the parallel organisation, while keeping his status equal with his fellows. His directions must then be translated to his colleagues by tactful persuasion rather than forcible coercion. In a highly individual technical occupation, such as medicine, the refusal of senior members may, however, have inherent virtues. Time may prove the rebel right and the conformers wrong. This proof is likely to lead to correction quicker if accompanied by practical demonstration.

75. The *hierarchical organisation*—

(i) In a salaried organisation, it is usually cheaper to pay one man a very high salary, and proportionately lower salaries as one goes down the hierarchy, than to pay a number of men reasonably high but equal salaries.

(ii) If one is fortunate enough to have at the head of one's hierarchy an administrative genius, who also has wide human sympathies, he may produce a machine which works more happily and more smoothly than the best parallel organisation. But such men of genius are rare. If, therefore, an organisation needs only a single national head, a hierarchical appointment is justified. If, however, multiple local heads are required, parallelism has a better chance.

(iii) A mediocre hierarchical head—the usual situation—is in an unhappy position. He is responsible for all the activities of his subordinates, the great majority of which he cannot supervise. As a result he tends to sacrifice initiative to safety. His administrative superiors are usually themselves paper-workers. So he tends to sacrifice true efficiency to paper efficiency: "It doesn't matter if the patient dies, so long as he does it on the right forms."

(iv) His powerful position vis-à-vis his subordinates tends to produce in him dictatorial traits—a dislike of criticism, self-satisfaction, and parochialism.

(v) The senior workers in a hierarchy suffer from all the disadvantages which are avoided in a parallel system. Years of subservience turn their minds away from their work; they may preserve social equilibrium by concentrating on hobbies, sports, or pastimes, or they may become embittered misanthropes, or scheming intriguers, assiduously seeking out influential people and canvassing committee members.

76. The vivid contract between the parallel and the hierarchical systems is well seen in medicine. In the voluntary hospitals, and in general practice partnerships, the parallel system has been working with great success for many generations. The defects of these organisations are due to other factors. In the municipal and national medical services—e.g., the forces, the prison service, and the Ministry of Health—hierarchies have been the rule, and as a result second-rate rather than first-rate personnel has been the general rule. The parallel system makes the administrator equal with, and not superior to, the technical worker—whether clinician, laboratory worker, or teacher. The hierarchical system limits the opportunities of advancement of the clinician and confines the prizes to the administrator. Ultimately, it is on technical rather than administrative skill that the treatment of the patient depends; so technical skill should receive at least equal recompense with administrative ability.

77. It is possible that the initiative of the private business concern as contrasted with the government department may be due not to the inherent virtue of competition and private enterprise but rather to the existence of a controlling board of co-equal directors some of whom are usually technical experts.

78. We have, then, no hesitation in recommending that in a national medical service, parallelism should be the dominant feature of the technical side, whether this be general practice, hospital practice, laboratory work, teaching, or research. In environmental medicine and in pure administration, a greater degree of hierarchy is probably inevitable, but even here it should be kept to a minimum.

79. Turning now to the question of the rôle of the individual and the committee, it is well to consider first the limitations of committees, and then their varieties and functions. It has often been noticed that the decisions of committees are far worse than those of the individuals who compose them. This is not really surprising, for the evidence before a committee is seldom clearly and logically set out, the members have little time for reflection and consideration, and what they say is often a superficial judgment or a comment on an individual point only. Good committee members are rare; it should follow that committees called upon to make decisions should be equally rare. On the other hand, committees make excellent sounding boards for new proposals.

The following types of committee commonly occur :—

(i) Legislative.
(ii) Directing.
(iii) Executive or administrating.
(iv) Coördinating.
(v) Advisory.
(vi) Judicial.
(vii) Research or investigating.

In practice, committees often perform more than one of these functions.

80. *Legislative and directing committees* may be considered together, since by our definition, a directing committee is one legislating within a field defined by the national legislative body. We support the view that legislative and directing committees should ultimately be responsible to those for whom they legislate. But, except in the case of the national legislature, we oppose a day-to-day inquisition, both because this stultifies enterprise, wisdom and long-sighted planning, and because many decisions must be based on highly technical evidence. In Britain, a 5-yearly mandate for such committees has been found to be a good working rule. At the end of that time, it is wise to call them to account. In addition, they may issue annual reports of their activities, which, along with their other activities, are constantly commented on by public opinion. Since directing committees are mainly concerned with technicalities, their members are best appointed not by public election, but by private selection—by, say, a minister of state and the privy council. To avoid restriction of the field, vacancies on such directing committees or boards should be publicly advertised. It is essential that some members (and perhaps the chairman) of such a committee should be non-technicians, eminent laymen who are capable of safeguarding public interest against technical interest. To prevent staleness, a limit on reappointment must be placed, and to ensure continuity, retirement must be by rota. The powers of a directing committee must be defined by the national legislature.

81. *An executive or administrative committee* carries out the policy decisions as instructed. In practice, such a committee can only consist of individuals personally responsible for the branches of an administrative machine; if the members are not themselves administrators, they will often be unable to ensure that the administration is in fact carried out. An administrative committee cannot be the head of an administrative machine. This head must be a single individual, hereinafter called the director-general. He must be appointed by, and be capable of being dismissed by, the directing committee or governing board. For him to be fully informed, he must attend the board's meetings as its secretary. In implementing the board's policy, he will need to discuss with and instruct his own senior officials. It is for him to decide whether this is best done individually, or in committee. Such a committee is not one at which votes are taken, since, if he wishes, the director-general can over-rule all its members. The task of schooling administrative committees is one calling for great patience, tact, and firmness.

82. *A coördinating committee* may not differ greatly from an executive or administrative committee. It is a gathering of equals who are aiming to fit together their varying tasks. However, unlike an executive committee, coercion of the members is impossible, and success depends on the tact and perseverance of the chairman. Coördinating committees have special interest in medical organisation because existing regional hospital committees are of this type. Coördination only presents big difficulties when the common good demands that some of the coördinators shall surrender a part or the whole of their work. In a perfect world, a coördinating committee would be enough; but since even hospital administrators are human, some overriding power must strengthen the work of a coördinating committee. The best overriding power is the control of the purse-strings.

83. *Advisory committees*, properly used, are of enormous value. They should not be elected, but coöpted with great care. Some members may be chosen as public figure-heads, but the majority should be there because their advice is really valued. The wise administrator, when faced with an awkward decision, will take the opinion of his advisory committee. Not only will its advice be inherently valuable, but it will provide a private and public bulwark if the decision is questioned. The BBC has used advisory committees with particular wisdom. A special variety of the advisory committee is what may be called the public relations committee. This may be chosen on a geographical or a functional basis. Its task is to reflect the feelings of the public it is chosen to represent, to pass back to its public the decisions of its parent body, and to obtain explanations of public misapprehensions or misunderstandings. Local examples of such committees are being increasingly used by national organisations, and are proving of great value. It must be emphasised that such committees need careful training if they are to be prevented from trying to take on directive or executive functions, and this training takes time and patience.

84. *Judicial committees* apply general rules to particular cases to settle disputes. Where no general rules are accepted by the disputants, judgment had to be based on practical consideration of all the facts presented; on such occasions, a utilitarian yardstick is invaluable. In the application of well-defined rules, legal training and experience is desirable in most members of the committee. In general arbitration, a legal chairman is a great help, but the committee should include members who may be regarded as equals of the disputants—e.g., in a dispute between a trades-union and a group of employers, the arbitration committee should include representatives of both unions and employers.

85. *Research or investigating committees* have two methods of study open to them. They may invite or order the submission of evidence, written or spoken, and may cross-examine witnesses, and they may arrange for the carrying out of research; this may be done by individual members of the committee or by commissioned investigators. In practice, the success or failure of a research committee depends almost entirely on the intelligence and personality of its chairman and secretary. For any big undertaking, the secretary should be whole-time. To the chairman and secretary will usually fall most of the drafting of the committee's report. The draft report will then be circulated to all members for criticism and correction. Members disagreeing with the

final report may submit a minority report or may merely decline to sign the final document. Examples of such committees are the various Royal and parliamentary commissions, and the Medical Research Council and its various subcommittees.

86. Having considered committees, we come now to the individual in the organisation. Here again, the position of the technician and the administrator differ slightly; thus, the technician may stand alone, while the administrator has got to fit himself into an ordered pattern if administration is to go on at all. But for both, there are certain restrictions, conditions, and safeguards which have to be seen clearly:—

(i) Method of appointment.
(ii) Method of remuneration.
(iii) Conditions of tenure.
(iv) Principles of advancement.
(v) Possibilities of change.

87. We think that *all* appointments above the most junior level should be advertised publicly, however strong an internal candidate may be. Appointments should be made by boards rather than individuals. Examinational entrance has little to commend it, though exam results may be an important factor for an appointing board.

88. A strictly logical scale of remuneration is impossible to devise. In a community, where there are attractive jobs for all, it may be necessary to raise the salaries of less attractive jobs above the general level. But in the long interim period before such a Utopia exists, we suggest a steady drawing together of maximum and minimum salaries, with parallelism on each level. Thus, where there are a number of heads of departments, they should be equal in salary and status. If there is one executive head of a group of directors (e.g., a director-general) he should be *primus inter pares*; his salary should not differ from his colleagues and the reward for his additional responsibility should be his additional authority. The ranges on both administrative and technical sides should be the same.

89. Security of tenure is a difficult question. There is no known post which is completely secure, though there are many from which dismissal only follows discovered dishonesty, and not laziness or inefficiency. It is argued that security both attracts and produces people lacking in enterprise and initiative. Equally, its absence makes for intrigues designed to displace unpopular seniors. There are two other peculiar by-products of security; one bad senior appointment may stultify a whole organisation for years; to cure this the strange practice of dismissal by promotion may occur: a man is got rid of from one section by recommending him strongly for a higher appointment in another. In medicine, security of tenure has been the rule rather than the exception. The medical officer of health is statutorily secure to enable him to stand up to the wayward local authority. In parallel organisations, such as the voluntary hospitals, security does not as a rule lead to a decline in initiative; at the same time, appointments are made with the greatest care, and initiative and character are usually regarded as important factors. On the whole, we favour security for the technician, and security with limited tenure for the administrator. At the end of an administrator's tenure, transfer rather than reappointment should be the rule, and retirement or dismissal should not be so rare that it carries with it disgrace.

90. Principles of advancement follow automatically from the method of appointment. If all but the most junior posts are advertised, and if appointments are made by boards, promotion by seniority should be confined to those cases where seniority is combined with merit.

91. Possibilities of change are limited for everyone. A man may give hostages to fortune in the shape of a house or a family, which tie him just as much as a formal contract. There is, however, one form of tie which can easily be remedied—the fixed superannuation scheme. Inside an organisation, all superannuation schemes should be mobile, and anyone leaving an organisation should be able either to take his scheme with him or to receive an adequate lump sum benefit. Broadly speaking, we think that internal staff movements, among both technical and administrative staff, should be encouraged. Administrative staff should move both in the geographical and in the organisational planes. In five years, a good man will have mastered any administrative or executive job. If he has not done so in that time, he never will. We therefore recommend fairly regular transfers from one job to another, and from one part of the country to another. Such transfers should not be inevitable, but should be encouraged.

92. To speak dogmatically about the optimum age of administrators is difficult, as one man may be old at 40 and another young at 60. But, as a general rule, posts calling for initiative and enterprise, no matter how senior, should be held by younger men; those requiring wisdom and critical faculties, such for example as personnel selection and arbitration, by older men. It is particularly important that the tenure of office of the young senior should be limited.

93. An administrative problem of great importance is dual control. This situation arises when two authorities jointly administer one machine. It is successful only when the interests of the two authorities are entirely mutual (e.g., where two small counties combine to own a joint mental hospital). But this is seldom so. As a general organisational rule, dual control is a compromise to be avoided. On occasion, a pseudo-dual control, giving the feeling of satisfaction to one authority, and the actual power to another may work extremely well.

94. Every large organisation has a nerve centre and a number of peripheral units. The size and number of such units should be determined by their function. To allow units of historical interest only to override functional need is certain to lead to inefficiency. In each peripheral unit, the principle of parallelism should be applied. Its administrative head should be equal in salary and status with the headquarters officer exercising general control. Peripheral officers in charge of large sections under the peripheral administrative head should have similar salaries and status. Interchange of staff between headquarters and the periphery and between parts of the periphery should be continuous, and should carry with it no stigma. Thus freshness is ensured, and the evils of bad appointments are minimised. Visiting between the periphery and headquarters should be encouraged. Peripheral devolution of authority, particularly a large degree of financial authority, is essential if work is to be done smoothly and quickly, and there should be room for peripheral experimentation. Thus, the pattern of each peripheral unit should not automatically be uniform. Much may be learned from a study of the regional organisation of war-time ministries, both as to precepts to follow and mistakes to avoid.

95. Every large organisation is continuously in touch with the public. Its smooth working depends in part on the greasing of these points of contact. Greasers are known as public relations officers. A public relations officer must make sure that members of the public know the services which are being offered to them, that their just criticisms are met, that their unjust ones are explained, and that courtesy and consideration are continuously in the minds of all within the organisation who make contact with the public. A joint training in sociology and advertising is a good background for a public relations officer, but ultimately personality is the most important factor in public relations work.

XII. Administration of a National Health Service

96. If the public throughout the country is to receive the best possible medical attention and treatment, regardless of individual or local poverty, a nationally organised health service is essential. The health service we have in mind is that concerned with the personal needs of the individual; environment services, which are primarily the concern of non-medical technicians, should be under separate control. Bearing in mind the general principles of administration already considered, we make the following proposals.

97. We are firmly of the opinion that the central authority of the national health service should be a corporate body and not a department of state directly under a minister of the Crown. Our reasons for this view are:—

(i) In departments of state, hierarchical organisation is the rule. In corporate bodies, a high degree of parallelism is possible.

(ii) Policy in medical matters must be long-term. To submit it to day-to-day or even year-to-year inquisitions in Parliament is to discourage bold planning and initiative and to invite playing for safety.

(iii) The principle that the best possible health services should be made available to all is no longer a political issue.

(iv) The maintenance of health is a joint task for the technician and the layman. To place the technician under the layman (as in a Government department) or the layman under the technician (as in martial law) is not to get the best out of either. They must in fact work together and equally.

98. The powers of the corporate body, hereinafter called the National Health Corporation, should be vested in a board of governors, in numbers not more than 7—a lay chairman, 3 medical members and 3 lay—at least one of whom to be a woman. We consider that any greater medical loading of the board might lead to accusations of self-interest in medical administration. The initial members should serve for from 3 to 7 years and thereafter members should serve for 5 years. Reappointment should never occur more than once. The board should be appointed by the Privy Council, on the advice of the Prime Minister and the Minister of Health. Members of the board should receive salaries, but it should not be their exclusive occupation. Vacancies on the board should be publicly advertised (as should every post in the corporation), but the choice should not be limited to the applicants. The work of the corporation should be subject to 5-yearly scrutiny, and its charter to 10-yearly renewal by Parliament.

99. The corporation should be charged with the spending of the national health funds, apart from purely monetary relief of the sick and their dependants. The funds would take the form of a block grant from the Social Security Fund, itself derived from the social security insurance payments and an exchequer contribution (see ¶ 43–46). The corporation should be empowered to acquire, own, and build hospitals of all types, clinics, health centres, offices, and other property. It should automatically acquire hospitals owned by the Ministry of Pensions and the EMS buildings, but not voluntary or municipal hospitals.

100. The principal executive officer of the board should be the Director-General. Except in very exceptional circumstances, he should be a medical practitioner, and he should be *ex-officio* secretary of the board. He should have a deputy. The senior officers in charge of large sections of the corporation's work should be Controllers. The salary ranges of the director-general and the controllers should be the same. Below each controller should be the directors of divisions, including peripheral directors in charge of geographical rather than functional divisions. These directors and their deputies should be on the same salary ranges.

101. Advisory committees should play a prominent part. All should meet regularly. Their members should mainly be coöpted by the board, and should sit for 5 years, being eligible for reappointment for another 5 years. They should receive honoraria. Senior officials of the corporation should attend the meetings. There should be a general advisory council, composed of men and women eminent in public life, medicine, nursing, the ancillary health services, the sciences, and even the arts. Technical advisory committees should cover the various aspects of the work of the corporation, and on these some members might well be appointed by the Royal Colleges, the British Medical Association, the General Medical Council, the Universities, the various nursing bodies, Government departments, the trades-unions, and organised industry. The corporation should make no attempt to take over the work of the British Medical Association or the General Medical Council.

102. The position of Scotland and Wales demand special consideration. If the burden of social security is to be uniformly distributed, they must be included in the national collection and distribution of money on the same basis as the rest of Britain. It would, however, be possible to organise separate health services for both. The advantages of this would be the satisfaction of national pride, and the possibility of a freer experimentation. The disadvantages would, in our opinion, outweigh these advantages. Interchange of personnel should play a large part in a national health service. If the Tweed and the Marches are to be barriers in this interchange, all sides will be losers. We therefore favour a national health corporation which covers Scotland and Wales. Both should however be treated as special units, with their own controllers and geographical advisory committees having the status of councils.

103. We are satisfied that the units of local administration in Britain are at present too small for efficiency. The new areas, hereinafter known as regions, should coincide as far as possible with the national regions adopted for civil administration. A multiplicity of functional regions, as at present, makes for inefficiency whenever functions overlap. Such regions may not always be ideal for health purposes, but the losses as a result of faulty geography are likely to be less than those resulting from a multiplicity of borders. Assuming that the present civil defence regions are adopted the following general modifications appear necessary:—

Region 1 (Northern), Region 3 (North Midland), Region 4 (Eastern), Region 6 (Southern), Region 8 (Wales), and Region 10 (North Western) each need dividing into 2 subregions. North Wales may need to be linked functionally with Cheshire and South Lancashire. Region 5 (London) could conveniently be enlarged. Region 7 (South Western) needs dividing into 3 subregions. Region 11 (Scotland) is already divided into 4 subregions and may require further subdivision.

104. If the regions are to be entities in the life of the people, it will be necessary to get rid of the present cumbersome geographical nomenclature. As a tentative suggestion, we offer the following names:—

Region 1. Tyneland	Region 7. Westland
„ 2. The Ridings	„ 8. Wales
„ 3. The Shires	„ 9. The Midlands
„ 4. Anglia or Fenland	„ 10. Lancastria
	„ 11. Scotland
„ 5. London	„ 12. The Weald or Eastland
„ 6. Wessex	

At this point, it should be clearly stated that the regions proposed are administrative and not medical; a patient choosing a doctor, or even a hospital, "over the border" should be free to do so.

105. In each region, the corporation should have an administrative office, with smaller offices in the subregions, or alternatively in each county area (county boroughs to be treated for this purpose as parts of

counties). The senior regional officer should be the regional director, though in Scotland and Wales he might well be a controller. As a general rule, he should be a medical practitioner. The regional office would be the main channel through which the national health funds flowed to hospitals, health centres, and practitioners. Each regional director should be assisted by a general regional advisory committee, and a number of regional technical committees, one of which should be the regional medical advisory committee. The general regional advisory committee should include representatives of the local authorities, the local university or universities, the medical and nursing professions, and possibly local trades-unions and industries. Similar organisation on a subregional or county level is also desirable.

106. The main regional coördinating committee should be the Regional Hospital Committee, composed of representatives of all hospital-owning bodies or authorities. The chairman of this committee should be the regional director. It would be the duty of the National Health Corporation to ascertain the medical needs of the population throughout each region, to make sure that these needs are met, and that the conditions of all those working in the health services fulfil the authorised standards. In carrying out this work, it will be necessary to give directions to hospitals on the subjects of size, function and staffing. The regional hospital committee will be the place at which the problems of coördination are thrashed out. Financial control will be the first force by which the corporation's directions are made operative. The corporation should also have the power to acquire compulsorily recalcitrant and inefficient hospitals. The corporation should not be squeamish in exercising these powers if necessary; efficiency should be regarded as more important than autonomy.

107. If elected Regional Councils, analogous to county and county borough councils, are established by law, they should be closely linked with, but should not control, the regional organisation of the National Health Corporation. The regional director might be their health advisory officer. They should nominate representatives on the regional advisory council, and they might be hospital-owning authorities.

108. While it is in theory desirable that all hospitals and other health buildings should ultimately be the property of the National Health Corporation, we recognise the need for a compromise. Provided that the staff of the hospitals were members of the corporation, the actual ownership of the fabric need not change. The present owning bodies could continue to appoint the hospital committees or governing boards, though the functions of these committees would approximate much more closely to those of a voluntary hospital board of governors than to a municipal hospital committee. Medical staff committees in hospitals would be the rule.

109. To strengthen the links between the local public in each small area and their health services, we propose that local health committees should be set up. These should be responsible for reflecting local sentiment about all health problems to the corporation, and for organising the supply of local health information to the community. Representatives of local practitioners should attend these committees to keep them informed of local progress and difficulties. Some members should represent the different parties on the local authority; others should be coöpted to represent other local interests, especially the local workers; a definite proportion of the members should be women.

110. Both the National Health Corporation and the Social Security Board should be linked to the Ministry of Health in much the same way that the BBC was formerly linked to the Post Office. Since the income of both would be derived first from the Social Security contributions received by the board, and secondly from a Treasury block grant, the Ministry of Health might nominally hold the pool into which both these were paid, and from which block grants were made to the corporation and the board. The expenditure of both would not, however, be under the supervision of the Ministry and the Treasury, but under their respective boards of governors. The Minister would answer in the House for the broadest lines of policy only, and not for any details of day-to-day or year-to-year business.

PART IV

The Doctor and His Work

XIII. An Outline of the Medical Services

111. Broadly speaking, doctors who serve the community, fall into three groups:—

(i) The home doctor—family doctor, or general practitioner.
(ii) The specialist or consultant.
(iii) The social doctor—environmental doctor, or medical officer of health.

The first two are concerned with the individual patient, and are primarily clinicians. The third is—or should be—concerned with patients en masse. Doctors perform other important functions, in particular:—

(i) Teaching: technical for medical students, student nurses, and other technicians; and (to a small extent) popular, for members of the public.
(ii) Research.
(iii) Administration.

But each of these functions is carried out by doctors who continue to be, or have been, members of the three primary groups.

112. There are a few people who believe that the day of the general practitioner, hereinafter called the Home Doctor, is over, and that patients should be dealt with from the outset by specialists. This proposal is only logical if it envisages a new type of specialist—the preliminary diagnostician or sorter. It envisages also a battery of specialists geographically situated so that they can see every sick persons. From this, it follows that routine domiciliary medical attention must end, and with it the intimate knowledge of the home circumstances of every patient which is a priceless asset of the good home-doctor. While we admit that there is room for improvement in the diagnostic training and skill of the home doctor, we consider that these proposals are grossly wasteful and are not in the best interests of the public. We think that the personal relationship between the home doctor and the patient is as real and important as it is hackneyed. We therefore accept the principle of the three types of doctor enumerated above, though we are by no means satisfied that the services they offer to the public are all that they should be. In particular, we would point out that special training or experience is provided for specialists and medical officers of health (hereinafter called social doctors) while none is provided for or demanded of the home doctor.

XIV. The Home Doctor

THE PATIENT'S POINT OF VIEW

113. From the patient's point of view, the home doctor has the following functions to perform:—

(i) He must be the doctor of the patient's choice.
(ii) He must examine and advise the patient at a point reasonably near the patient's home at a mutually convenient time, whenever the patient wishes it. The conditions of examination must be such that the patient is satisfied that all that can be done, has been done. Time for examination and explanation must be adequate.

When the patient is more severely ill, the home doctor must visit the patient's home.

(iii) He must give the same standards of advice and skill to all his patients, regardless of their class, social status, or income. The standards must be the highest he can achieve.

(iv) When he has reached the limit of his skill, he must not conceal the fact from himself or the patient. He must then arrange for the patient to see an appropriately skilled specialist, and must coöperate with this specialist in carrying out treatment when the patient leaves the specialist's hands. Furthermore he must arrange for a specialist opinion at the patient's request, even when he himself considers this unnecessary.

(v) When it is necessary, he must arrange for the patient to receive appropriate institutional treatment.

114. Each of these functions requires further examination. The value of freedom of choice of doctor, even though it is in part illusory, has already been discussed (¶ 36). That the "point of examination" must be reasonably near the patient's home is self-evident. In urban areas, such points may conveniently be Health Centres, at which a number of practitioners work; in rural areas, such grouping is impossible, and the practitioner's surgery and consulting-room must act as the health centre. The advantages to the patient at such a centre are that the necessary devices for special examination will be at the doctor's hand, that dispensing if done will probably be more rapid, and that the presence of several doctors at one spot is likely to raise the standards of work of each.

115. That all patients shall receive only the best is another self-evident proposition. Perhaps, naturally, many panel patients believe that home doctors favour their private patients. Though the belief is more widespread than the facts justify, it has some basis. Doctors are subject to the same weaknesses as other men, and social barriers are not unknown in medical homes; the poor waiting on benches and the rich in the dining-room is not yet a thing of the past. We consider that the health centre will go a long way to removing these ideas. Private patients may elect to see their doctor in his own home or at the health centre. As they come to appreciate the value of the services which the centre offers, they will more and more tend to use it. Waiting-rooms at the centre should be arranged according to the doctors to be visited, and not on a social basis. The standard of waiting-room furniture should be as high as possible and the same for all. There should be an appointment system available for all. Private patients attending without appointment should not receive preferential treatment over insured patients attending thus.

116. A third self-evident proposition is that the skill of the home doctor is limited. At present, many home doctors do work which in large towns is entirely in the hands of specialists. While we recognise that some home doctors are competent surgeons, radiologists and pathologists, we consider that even the best of them are less valuable to their patients than reasonably good specialists. This is no reflection on their efforts, since in these specialties constant practice is essential if the best results possible are to be obtained, and home doctors are inevitably denied such constant practice. The proper place for the home doctor surgeon, if he is competent, is in the ranks of the specialist. We have cited the best. The average is far below this, and at worst, the home doctor operating in a small hospital staffed only by other home doctors may be a serious menace to the neighbourhood. This menace is the greater because the public have no standards by which to judge his surgical skill.

117. We realise that any proposals to limit the surgical and specialist activities of the home doctor will meet with some opposition. Since, however, our primary concern is the welfare of the public, we must state categorically that for specialist work, specialists must be used. Lest we are thought to be discriminating against the home doctor, we would add that the remuneration of the home doctor should not differ materially from that of the specialist.

118. In his own field, the home doctor must in fact be a specialist. An outline of that field should convince all reasonable people that he has enough on his plate without recourse to other specialties. He must be an expert in:—

(i) General bedside diagnosis, especially medical and surgical emergencies.

(ii) General home treatment (including, in remote areas, dispensing, but excluding biochemical medicine such as the stabilisation of diabetes, and specialised treatment such as venereal disease).

(iii) Simple clinical pathology.

(iv) The diagnosis and home treatment of specific fevers, skin diseases, diseases of the eyes, ears, nose and throat, children's diseases, gynæcological diseases, and minor psychiatric illnesses.

(v) After-treatment of all institutionally treated illness.

(vi) Child welfare.

(vii) Ante- and post-natal care, and possibly midwifery.

(viii) Minor surgery and medical first-aid in surgical emergency (excluding anything but the first-aid treatment of fractures).

(ix) Forensic medicine as it affects general practice.

119. In addition, he has to be a guide, philosopher, and friend to his patients and their families, and a combination of home health educator (ready with advice on ventilation, diet, exercise, rest and sleep) and health public relations officer and almoner (making sure that those who need and are entitled to help know where and how to get it).

120. This formidable list brings home again the point that the training of the home doctor should be very different from what it is. At present, he wastes many hours in the dissecting-room and the operating theatre which should be spent in the fever hospital, the children's ward, the special outpatient department, the social welfare department, and above all, in the health centre itself.

121. But if we consider that the home doctor must be a specialist in home doctoring and not an operative surgeon, it does not follow that he should play no part in institutional treatment. Whenever physically possible he should have facilities, not only for following his patients through the hospital, but for playing an active part in hospital work. The details of our proposals will be considered later (¶ 128).

THE DOCTOR'S POINT OF VIEW

122. The doctor's point of view is, in fact, complementary to the patient's. Unless the home doctor is working under the best conditions, he will not be able to give his patients the best service. The conditions we consider essential are as follows:—

(i) He must not have to "buy his way in" to a practice. His early years in practice must not be crippled by the heavy debt which purchase so often involves.

(ii) He must be a free man—free to throw up his practice if he wishes so to do; free to refuse to accept a patient (though having once accepted, he must carry out his obligations); free to increase his practice by his own efforts up to a point where it is generally judged that efficiency is reduced; and free from undue bureaucratic interference, whether medical or lay. If he fails to carry out his statutory obligations, he must be subject to statutory discipline, and not the inroads of officialdom. Unless our doctors are free men, they will lack the sense of responsibility on which the doctor-patient relationship rests.

(iii) His remuneration must be adequate, from the outset of his career, and must bear a relation to the amount of work he does.

(iv) He must be adequately housed, and adequately equipped for his work.

(v) By arrangement with his colleagues, he must have regular and adequate off-duty times. He must have regular holidays.

(vi) Once every 5 years at least he must have a refresher course specially planned for his needs.

(vii) Within his general field, he must have opportunities for acquiring and utilising special skills.

(viii) He must keep in contact with his colleagues, general and specialist, and for this there must be a physical focus. His primary focus will, in fact, be the health centre; his specialist focus will be his local polyclinic and hospital.

(ix) He must be adequately insured against sickness and provided for in old age.

A consideration of these points will make clear our proposals for the home doctor service.

123. We propose that all practices which are about to fall vacant, or have fallen vacant by sudden death should be compulsorily advertised in the medical journals. Such advertisements should have a set form giving the essential data. The appointment should be made by a small board, on which should sit representatives of the regional office of the National Health Service and of the regional medical advisory committee; one member of the staff of the medical committee of the health centre concerned, preferably the retiring or vacating doctor, should also sit on the board. The patients on the list of the retiring or deceased doctor should be invited to choose a new doctor from among all those working at the centre, including the newly appointed practitioner; they would be asked to make a definite choice, and would, of course, be free to change their choice later if they wished.

124. In newly developing areas, where more home doctors or health centres are needed, a board similar to that for a death vacancy should make the appointment from among the candidates applying. Such need will be indicated to the regional office of the National Health Corporation by its medical intelligence service, the peripheral officers of which will be the medical officers of health. The determination of need involves a detailed knowledge of each locality, and a periodical local census. This could be made from the social security registrations.

125. Each doctor at a health centre would accept patients for his list up to a prescribed maximum number. He would be free to refuse to accept patients, but having accepted them, he would be under an obligation to treat them in their homes and at the health centre, and to arrange for consultations and hospital treatment for them whenever necessary. His remuneration would consist of three parts:—

(i) A basic salary with additions for special qualifications and length of service.

(ii) A capitation fee depending on the number of persons on his list.

(iii) Fee for special clinics or other special work, and private fees for patients choosing to be outside the service.

The terms and conditions of service should be on a national basis, and should not be altered without consultation with the organised medical profession. The salary, capitation, and special fees should be paid from the corporation funds. Deductions should be made for pensions, dependants' pensions and sickness and disablement allowances. In the event of a practitioner leaving the service, his contributions should automatically revert to him. Contributions and benefits should be unaffected by change of occupation within the service.

126. Practitioners entering the service from existing private practice should be offered guaranteed non-contributory retirement and death pensions in compensation for loss of capital. The sale of practices within the service would not be permitted.

127. We come now to the actual organisation of the health centre. To limit the amount of travel of patients, centres should not be too large (6–12 doctors). The centre should be purchased or built, and owned and maintained by the National Health Corporation. The building should be pleasing and utilitarian within and without. Each doctor should have his own consulting-room and there should be an additional consulting-room for visiting specialists. We regard it as important that doctors should not share rooms on a Box and Cox arrangement, as each room should develop its occupant's personality. There should be several common waiting-rooms not used for any individual doctor. All patients, on arrival, and on departure, should pass through a receptionist's office, for record purposes, the issue of patient's notes by the receptionist to the doctor (not the patient), and the booking or collection of private fees. There should be a small theatre for minor surgery, a small surgery for septic work, a pathological room for simple diagnostic investigations, a small X-ray room, and possibly a room for physiotherapy. There should be a dispensary in charge of a pharmacist who should also act as supply officer for instruments, stationery, and equipment. Dispensing on the spot would save an enormous amount of the public's time, and the dispenser would be in a position to check excessive prescribing at source. In addition, there should be rooms for the local district nurses, midwives, and health visitors. There should be a resident caretaker who would also act as telephonist. At least 2 secretaries would probably be needed for a centre with 8 or more doctors; they would undertake clerical work and record keeping.

128. In no circumstances should any inpatient work be undertaken at the centre.

129. Within the centre, the whole medical staff sitting as a committee would arrange the hours of work, emergency rotas and night calls, holidays, and other internal matters.

130. It would be the duty of the centre to provide antenatal, natal, postnatal, and infant and child welfare services. It would also provide staff for school medical inspections. If one or more practitioners specialised in midwifery and infant and child welfare, taking over cases from their colleagues, they should receive extra remuneration but the length of their permitted list should be reduced.

131. The centre, especially the pathological and X-ray sections, should be closely linked with one local hospital, and the work done in these two sections should be supervised by the appropriate hospital specialists. Doctors at the centre should be attached officially to the local hospital.

132. At the centre there should be one or two whole-time salaried assistants, junior practitioners gaining experience in home practice. They should be assistants to the centre and not to individual doctors, and the committee of the centre should decide their work. They should help and deputise for the seniors, who in turn should instruct them as much as possible. Assistantship would be a sine qua non for a doctor applying for a senior post at any health centre. Normally an assistant would hold the post for from 6 to 12 months.

133. The centre should encourage an emphasis on health rather than sickness in the community it serves. It would have an important part to play in health education, by lecture and by individual instruction. Individual centres should experiment with periodic health examinations to ascertain their value and dangers, if any. Prophylactic services, such as vaccination and immunisation, should be undertaken at the centres as a regular part of the service.

134. There is much to be said for incorporating two or more dentists in each health centre.

135. In rural areas, the doctor's surgery should become a one-man centre. Adjacent country practitioners

should be affiliated to the larger centres in their local country towns, so that they have the benefit of assistance and the services offered by the centre. In rural areas normally covered by country town practitioners, outlying surgeries might form a part of the centre. All doctors doing rural practice should have cars convertible into one bed ambulances (by lowering the back of the seat next the driver).

136. Certain types of case should invariably be referred from the centre to the specialised clinic attached to the local hospital. These include tuberculosis, venereal disease, mental deficiency, orthopædics including all fractures, and unstabilised diabetes.

137. We consider that the only serious risk of the health centre system is that it may lead to bickering and quarrelling among the home doctors working there. Nevertheless, the advantages, both to patients and staff, which it offers, greatly outweigh this risk. The fact that there will be a similarity, if not an equality, of remuneration, and that remuneration will be related to work done, will greatly help matters; and as more of the higher income patients elect to enter insurance practice, the volume of extramural private work will become very small. With a certain amount of goodwill we see no reason why the rivalry inside the health centre should not be confined to healthy and stimulating competition.

XV. Specialist and Hospital Services

THE HOSPITALS

138. An adequate hospital and specialist service must provide the following facilities:—

(i) Consultation in clinics reasonably near the patients' homes, and, when necessary, consultation in the patients' own home.

(ii) Outpatient treatment for conditions beyond the scope of the home doctor.

(iii) Inpatient investigation and treatment.

(iv) Special treatment for long lasting and chronic illness.

(v) Rehabilitation (positive convalescence).

(vi) Training of doctors, nurses, and ancillary health workers.

(vii) Research.

139. An exhaustive examination of the disadvantages of the present system would be redundant, since most of them are generally admitted, but the following brief summary is necessary if remedies are to be applied:—

(i) There are great inequalities in the service, conditions, and facilities offered to patients. At one end of the scale are the best voluntary and municipal general hospitals; at the other are certain remote provincial voluntary hospitals, cottage hospitals, nursing-homes, and municipal fever hospitals, in which one would not wish one's worst enemies to be patients.

(ii) There are equally great variations in the conditions of services of doctors, nurses and other staff.

(iii) There are great inequalities in the conditions of admission. Voluntary hospitals in practice impose an elastic means test, while municipal hospitals impose a rigid geographical test. In both, contributory payment is exacted according to capacity to pay; this payment is made during or after the patient's illness. A special and peculiar admission test is applied in voluntary hospitals, particularly teaching hospitals; patients with rare, interesting, gross, or typical maladies are favoured in preference to those with common, mild or dull complaints; in non-teaching voluntary hospitals this is unjustifiable. As a result, doctors in municipal hospitals are sometimes starved of interesting clinical material.

(iv) There are great inequalities in the degree of privacy available for different social classes.

(v) The length of time waited for admission by patients varies not only from hospital to hospital, but also from department to department within one hospital. It is usually longest for gynæcological and ear, nose, and throat complaints.

(vi) The consultant services available for the poor at the voluntary hospital are in many ways admirable. Consultant service for the poor in their homes is conspicuous by its absence. The services available to rich may be even more admirable if they choose the right consultant in the first instance; they are however in grave danger of falling into the hands of pseudo-consultants, medical rogues, charlatans, and tricksters, who exploit the Harley Street neighbourhood in the absence of any publicly recognisable guarantee of consultant efficiency. The middle classes can obtain the same admirable service available to the rich—but only at a price which adds financial to physical distress.

(vii) The conditions of work of the genuine consultant are such that 10 lean financial years between the ages of 25 to 35 have to be survived before a reasonable income can be achieved. In this period, a certain degree of disillusionment with the high ethics and scientific standards of medicine is not unusual. The difficulties of the young London consultants have been considerably increased of recent years by their rapidly multiplying number.

140. In planning for the future, it is reasonable to try to pick out the best points of each existing hospital service and produce something which combines them all.

(i) The voluntary hospitals have demonstrated the value of the parallel as opposed to the hierarchical staffing system of the municipal hospitals. A ladder of promotion which forces the able clinician away from medicine, into administration, has little to commend it. It is essential that the clinician should be on a par with the administrator. Further, the clinician's opportunities should not be reduced because he specialises in something other than pure medicine or pure surgery.

(ii) All specialist work should be done by specialists. The cottage or small provincial voluntary hospital in which the GP surgeon practises occasional surgery is a danger to the public, not lessened because the public seldom realises the risks it runs.

(iii) The number of changes of doctor which any patient suffers should be minimal. As far as possible, persons seen as outpatients should be under the same doctor in the wards.

(iv) The number of patients in the care of any doctor should be strictly limited, whether as inpatients or as outpatients. Much poor work is done because the voluntary hospital outpatient doctor and the municipal inpatient doctor has far too many patients to attend to.

(v) Single quiet wards should be available to all patients who need them for medical reasons. Such patients should have first pick of the single rooms available. Patients with a personal preference for single rooms should have their wishes catered for by a system of additional payment graded according to income; they should not be reserved for upper income groups only.

(vi) All facilities needed by an inpatient should be available under one roof. Few private nursing-homes provide all these facilities, and fewer still have a resident medical staff. The facilities which are available to the poor in the voluntary hospital should equally be available to the rich.

141. We are now in a position to outline our proposals for a national hospital service under the National Health Corporation. The unit should be the region or subregion. In an undivided region, or in a subregion, there should be 3 or more *key hospitals*. We anticipate that the maximum number of key hospitals in the most populous region would not be more than 10. Except in very sparsely populated areas, no point in any region should be more than 50 miles from a key hospital. Attached to each key hospital, there should be a number of *local hospitals* or *medical centres*. No point in any region should be more than, say, 15 miles from a medical centre. Attached to each medical centre should be the local health centres.

142. *Medical centres*—These would be existing provincial voluntary, cottage, or municipal hospitals, often greatly altered in function and structure, and new hospitals built by the national health corporation. All costs of these hospitals should be paid by the corporation. Their functions should be allocated by the corporation

via a regional hospital committee. These functions would be :—

(i) The provision of a complete outpatient department or polyclinic, for :—

(*a*) Specialist advice for patients sent by home doctors from health centres.

(*b*) Outpatient treatment of special diseases and conditions beyond the scope of the home doctor and the health centre—e.g., tuberculosis, venereal disease, fractures, diabetes.

The polyclinic would in fact resemble the outpatient department of a large voluntary hospital, plus a tuberculosis dispensary, and a venereal clinic, but without a casualty department or a department for treating the minor sick as outpatients. It would be staffed on a sessional basis by specialists coming out from the key hospital; these specialists would also supply a domiciliary and health centre consultant service in case of real need. Special small consulting-rooms would exist for patients wishing to see specialists individually. Such private treatment would be supplied either to those who paid an additional insurance charge or to private uninsured patients; in the former case, they would be seen by whole-time salaried consultants; in the latter, by the part-time staff as fee-paying patients; all such fees should, however, be collected by the almoner.

Posts as assistants in the outpatient clinic should be available to home doctors working at health centres. All doctors from attached health centres should have the right to attend at all non-private outpatient sessions.

(ii) The provision of beds (private and public, arranged on the same basis as for outpatients) for

(*a*) Acute medical and surgical emergencies for adults and children. These beds should be in the immediate charge of an RMO and an RSO; these posts should be occupied only by doctors having higher qualifications and should be equivalent to or immediately above registrar status. The RMO and RSO should work under a rota of key hospital consultants, always on call. Emergency surgery should be done by the RSO or a key hospital consultant; anæsthetics should be given by the RMO, another resident, a resident anæsthetist or the home doctor.

(*b*) Minor illnesses for which home nursing cannot be arranged. Such cases should be seen on admission by the RMO or RSO. If he is satisfied, they should remain under the charge of the admitting home doctor. If the need arose the RMO or RSO should have the power to call in a key hospital consultant, though not without informing the home doctor except in case of emergency.

(*c*) Midwifery.—Depending on the size of the department, the admission and general supervision should be undertaken by the RSO or a resident accoucheur. Home doctors should, if they wish, handle their own cases, but a key hospital consultant should always be on call.

(*d*) Acute infectious fevers including smallpox. We are satisfied that there is no medical need or justification for separating fever hospitals from other hospitals. We consider that geographical isolation has had a bad effect on both fever and nursing personnel, and that the patients have been the ultimate sufferers. Fever beds should be in the immediate care of the RMO or a resident fever officer, who should work under a key hospital fever consultant.

(*e*) The chronic sick, the infirm and the slowly dying. We consider it essential that these patients should be nursed reasonably near their homes; and that they should *not* be cared for in isolated institutions to which they feel they are sent to die, and in which they often sit and rot. They should be looked after on the same basis as the minor sick.

(iii) The provision of a pathological laboratory and radiological department. The former should be in the immediate charge of the RMO or a resident pathologist, working under a key hospital pathologist. The latter should be under a visiting key hospital radiologist, with RSO or a technician trained for emergencies.

(iv) The provision of the department of the medical officer of health, hereinafter called the social physician. He should be responsible for all health and sickness records in the hospital, the attached health centres, and the area served, as well as a number of other duties which will be discussed later.

(v) The provision of a hostel, attached but not necessarily immediately adjacent, for the children under 15 of local women admitted as patients to the medical centre or the key hospital. We consider this a vital health service, inasmuch as the care of children exercises a powerful inhibiting factor on women who need but refuse hospital treatment. We think that children over 14, and husbands, should be quite capable of fending for themselves. Children of sick mothers being nursed at home should also be eligible for admission. As far as possible, they should continue to attend their own schools during the day, but if necessary should attend local schools nearer at hand.

143. The medical centre would thus become an outpatient diagnostic and treatment centre, and an emergency treatment centre (including under this heading fevers and midwifery), a hospital for the minor sick, and a home for the chronic sick. The home doctor would enter far more into its work than he does as a rule at present, but no patient would be isolated from the best available skill.

144. The medical administration should be in the hands of the RMO and the RSO who should be appointed on the advice of the key hospital medical committee, to whom the work of appropriate junior staff would be well known. The lay administration should be in the hands of a lay administrator, a secretary, steward, or administrative officer, paid, like the rest of the staff, by the National Health Corporation. The lay hospital committee, whether voluntary or local authority, should meet monthly, or better, quarterly to receive the reports of the secretary, RMO and RSO, and to deal with such matters as was necessary. A medical committee, composed of the visiting key hospital specialists, plus some home doctors representing local health centres, and the local medical officer of health should advise both the lay committee and the regional authority.

145. *Key hospitals* would be existing large voluntary or municipal hospitals, or new hospitals. At least one in each region should be directly linked with a university as a main teaching centre, and some undergraduate or postgraduate clinical teaching should be carried out in all key hospitals. There would be no inherent objection to having two or more key hospitals in any large centre of population, provided the rest of the region were adequately served.

146. At each key hospital, there should be a complete functional replica of the medical centre, first to provide the necessary services for the population and health centres in the immediate neighbourhood, and secondly to provide the teaching facilities needed in outpatient and minor medicine, fevers, midwifery, and the care of the chronic sick. The student should, however, gain his necessary casualty experience as a dresser attached to an adjacent health centre.

147. Inpatients would be received exclusively from medical centres (including the key hospital's own section) on the advice of the key hospital's own staff who had seen them as outpatients. Patients desiring privacy, whether paying extra insurance or private fees, should, as far as accommodation permits, be treated privately. The only privilege privacy would carry with it should be freedom from being taught on and demonstrated. In all other respects,—nursing, theatre, medical attention, food, &c.—conditions should be identical.

148. The type of case entering as an inpatient would include all cold surgery, semi-acute, and chronic medical cases of all types requiring investigation and treatment, and all types of case admitted as a result of local hospital functions.

149. In internal organisation, the key hospital should resemble closely the voluntary hospital. A series of parallel and equal medical, surgical, and other firms or units would operate. Typically, each might consist of a

senior, his deputy, perhaps a chief assistant, a registrar, one or two house officers, an almoner, as well as two or three clerks and secretarial assistants. The number of hospital beds in each unit should vary from 40 to 80, depending on the type of work, and also whether the two seniors were part-time or whole-time. Both seniors, the chief assistant, and possibly the registrar should do regular outpatient clinics at local hospitals (including the key hospital), and both seniors should have charge of beds in perhaps a ratio of two to three. To each unit should be attached a number of single wards. The number of units in a key hospital might be considerable. For example, two general medical units (including gastro-enterology and biochemical medicine as specialties), a cardiovascular unit, a pulmonary unit (including tuberculosis), a neurological unit, a psychiatric unit, an arthritic unit, a dermatological unit, a venereal unit, two general surgical units, an orthopædic unit, a genito-urinary unit, two ear, nose, and throat units, a plastic unit, an ophthalmic unit, two obstetric units, a pædiatric unit, two gynæcological units, and perhaps a children's surgical unit, might be a typical set-up. There would be no rigidity in such an arrangement. In one regional key hospital, for example, a plastic unit might be replaced by a neuro-surgical unit, and a general medical unit by an endocrinological unit. Assuming an average of 50 beds per unit, a typical key hospital would have just over 1000 beds, plus its special blocks for fevers, minor illnesses and the chronic sick. Pathology, radiology, anæsthetics and physiotherapy should constitute separate staff units. Some regions at least should have one forensic medical unit.

150. The administration of such a hospital should itself constitute a separate equal unit. We regard it as unimportant whether the chief and deputy chief administrators are, or are not, medically qualified. They should be administrative specialists, specially trained as such, and should certainly do no clinical work. Where the senior administrative officers are laymen, routine medical administration should be in the hands of an RMO and RSO. A hospital medical committee, composed of all heads of units and their deputies, should meet regularly to decide all medical problems. We consider that representatives of the juniors in a key hospital, registrars, house-officers, and even clinical students, should sit on the medical committee. We believe that this would have a most healthy effect in preventing staff squabbles, nepotism, and a general belief that the committee was acting only in its own interests. Much of the committee's work would in fact be done by subcommittees. It should make recommendations as to staff appointments to the regional authority, and these should seldom be disregarded. In the event of conflict between the medical committee and the chief administrative officer, the committee should have the right of direct approach to the regional authorities.

151. A similar nursing committee composed of the matron and representatives of the sisters and nurses and student-nurses would be a desirable experiment.

152. The lay committee or governing board should meet not more often than once a month. It should be composed of existing members, whether of voluntary hospitals or local authority origin, plus medical and nursing staff representatives, and possibly one or two retired members of these staffs. If it did not include members of a publicly elected authority, arrangements should be made for some general public or "consumer" representation. It should receive the reports of the administrative officer and should deal with such other matters as was necessary.

153. Where a key hospital was attached to a university or a medical school, these should be specially represented on the medical and lay committees. Similarly the staff and hospital should be represented on the medical school committee.

154. *Long-stay hospitals.*—Attached to the appropriate units of each key hospital should be the necessary special treatment and convalescent hospitals. These would be for pulmonary tuberculosis and other pulmonary diseases, cardiac invalidism (particularly for children), orthopædics (including accidents, and bone and joint tuberculosis), rehabilitation and convalescence of general medical and surgical conditions, intermediate and chronic mental illness, epilepsy, and mental defect. Where new hospitals of this type were needed, it might be possible with profit to build combined pulmonary, cardiac, orthopædic and general country rehabilitation hospitals. We think that such combined units would be profitable alike for patients, nurses, doctors, and students. At each such hospital, the medical staff of the key hospital should have charge of at least a certain number of beds. In addition, a staff of the house-officer and registrar level would certainly be needed, and almost certainly higher specialist officers. If more than two specialists were employed, a unit system should again be adopted, and exchanges of such specialists between the key and rehabilitation hospitals should take place at intervals. If a medical superintendent was employed, the volume of his clinical work should be strictly limited, and visiting key hospitals and permanent specialists should be his equal in status.

155. *Special hospital.*—The specialised hospital, which concentrates on a single disease or group of diseases, is justified if it acts as a national centre of postgraduate teaching and research. We doubt if there is room for one of each type of special hospital in each region. We consider that specialised hospitals should operate on a national basis. A great part of the present multitude of small specialised hospitals should be closed down, their staff and functions being taken over by the appropriate departments of key hospitals.

156. We envisage two or three national special hospitals (of which one would usually be metropolitan) of each of the following types:—

Pædiatric	Gastro-enterological
Cardiological	Neoplastic
Pulmonary	Traumatic
Neurological	Orthopædic
Psychiatric	Ophthalmological
Dermatological	Ear, nose, and throat
Venereal	Midwifery
Endocrinological	Gynæcological

Since these hospitals should exist primarily for post-graduate teaching and research, at least half the senior posts (arranged on the unit system) should be whole-time, and often professorial. The remaining senior staff might be specialists from adjacent key hospitals, but where this was the case the number of beds at the key hospital in the charge of the specialist should be appropriately reduced.

157. It should be open to any doctor throughout the country to send a patient to a special hospital for consultation and treatment. But the feeding of special hospitals with patients should more usually be done by affiliating them to one or more adjacent key hospitals. The appropriate departments of these key hospitals would be correspondingly smaller. Such a reduction would mean that some undergraduate teaching would be necessary at the special hospital, if the affiliated key hospital was itself a teaching hospital.

158. *The location of hospitals.*—Medical centres should be centrally placed in the locality which they serve, since:—

(i) They would be general outpatient and emergency centres.

(ii) The chronic sick, in particular, should be really near their friends.

It does not necessarily follow that they should be in the centre of a town, though we see no inherent objection to this provided there is adequate light, air and quietness.

Indeed the ruralisation of town hospitals is a confession of failure of town-planning. Since the local hospital will receive a continuous stream of outpatients and visitors, and since a booking system will distribute outpatient attendances throughout the day, the one essential for the site is that it should be very close to a good public transport service.

159. It is equally important that key hospitals should be very close to a good public transport service since they will be nodal points for both patients, staff, and visitors, going to and from a wide area. We consider that key *teaching* hospitals should certainly be urban; the life of a big town is in itself part of the training of the medical student. For the rest, provided there is light, air, and quiet, we regard it as relatively unimportant whether key hospitals are urban or suburban. We feel, however, that the case against the country key hospital—except in towns so badly built and planned that light, air, and quiet cannot be obtained—is valid. The relative cheapness of country building sites is man-made and not a physically insuperable point. And the contacts of town life add greatly to the happiness and efficiency of medical and nursing staff. What holds for key hospitals holds equally for special hospitals.

160. Long stay hospitals present a rather different problem. In many of these, complete open air is essential. Others have to provide facilities for open-air work and colony life. We think that the case for keeping them in the country, as at present, is good. But great care should be taken in choosing sites for new hospitals to make sure that they are very near good public transport facilities.

161. *Names of hospitals.*—Great traditions of treatment, teaching, and research are bound up with the names of Britain's voluntary hospitals. At all costs, these names should be preserved. We consider that a purely geographical or functional name (except where sanctioned by time) militates against the growth of hospital corporate spirit. We, therefore, hope that new hospitals will be given good names. We deprecate also the numbering instead of the naming of wards. A1 or B2 instead of "Charity" or "Dorcas" ward is a poor exchange.

162. *Ambulance services.*—Ambulances should be based on local and key hospitals and not run as a separate organisation. Their present separation has arisen because of the divided control of the hospitals. To make people work continuously as ambulance orderlies and ambulance nurses is to destroy any real interest in the sick which they may have.

MEDICAL STAFF

163. We consider that the principles governing the work of senior medical staff should be as follows:—

(i) All appointments should be advertised. Inbreeding should be discouraged, especially at teaching hospitals. Primary selection should be by the medical committee of the key hospital concerned. Final appointment should be by an appointments board composed of members of the regional office of the national health service, of the regional medical advisory committee, of specialists in the subject concerned, and possibly of additional assessors from outside the region. Junior appointments up to registrar standard should be recommended by the medical committee, and confirmed by the regional office.

(ii) The clinical and administrative ladders should be separate, and promotion and pay should be the same in both. Movement from the one to the other should not, however, be rigidly forbidden.

(iii) No member of the senior staff should be confined to outpatient work, and none should be free from it. The same applies to work at medical centres, and domiciliary consulting.

(iv) The conditions of appointment, work, pay promotion &c., should be the same in all hospitals whether key, long-stay, special, or local medical centres.

(v) Two types of appointment should be open to senior medical staff—whole-time and part-time. Unless the post was specifically a whole-time one, as for example a university chair at a teaching key hospital or a research professorship at a special hospital, the choice of whole- or part-time work should largely rest with the candidate. It should be open to him to revise his choice at not less than five-yearly intervals.

(vi) Whole-time officers should have charge of larger units, with more beds and outpatients clinics than part-time officers. They should be required to do domiciliary consulting under the national scheme for insured people, and should see and treat in small consulting-rooms and in single wards patients who had paid the additional insurance premium for private attention.

(vii) Part-time officers should be permitted privately to see uninsured patients in hospital consulting-rooms, but not in hospital time—the fees to be collected by the social worker. They should be permitted uninsured private hospital inpatients on the same basis, the hospital charging such fees as it deemed fit. This would kill two birds with one stone: consultation at hospital would be a guarantee to the patient of the efficiency of the consultant; and the pseudo-consultant would be left alone in Harley Street, which would soon cease to have any cachet.

(viii) At least one of the whole-time staff in each major subject in teaching key hospitals should be a university professor; this appointment should be made by the university concerned.

(ix) Uniform national scales of remuneration for hospital staffs should be laid down. We suggest the following approximate ranges:—

(*a*) For whole-time seniors £1500 to £2000; for whole-time deputies £900 to £1400.

(*b*) For part-time seniors—if three quarters of the time, two-thirds the salary of the whole-time officer; if half time, a third the salary of the whole-time officer. We suggest less than a strictly pro rata basis, because we think men will only choose part-time work if they consider their earnings will thus be greater.

(x) Adequate provision should be made for holidays, pensions on retirement and sickness.

(xi) Movement from time to time within the hospital service should be encouraged, as also should travel at home and abroad, for the sake of gaining experience. Such movement should not prejudice advancement, but rather the reverse.

(xii) All senior hospital posts should be non-resident.

164. For junior appointments, we propose little alteration in the existing procedure at voluntary hospitals. We consider that every newly graduated medical practitioner should be compelled to hold a house appointment before being fully qualified legally. Even with the present number of hospital resident posts, there appears to be no difficulty in this. Indeed two compulsory posts is in fact physically possible. The 1940 figures for England and Wales are as follows:—

	Six-monthly appointments	Total per annum
Voluntary teaching hospitals	87(+493)	1160
Voluntary non-teaching hospitals	1048(+427)	2970
Municipal hospitals	712	1424
		5554

The figures in parentheses are for slightly more senior house appointments, all of which will presumably be filled by holders of junior posts. If we assume that, in all 2000 posts will be filled by the promotion of those already holding posts, we are still left with 3500 posts per annum to fill. The average number of doctors qualifying in this country per annum in the last 5 years was 1239. To this one must add, say, half the Scottish, Irish, and Colonials graduating here per annum, 570 (half the average for the last 5 years). Even so, there are enough resident posts to average out at about 2 per head.

165. Every house-officer should therefore be encouraged to do more than one six-month house appointment. Potential general practitioners, in particular, should obtain special experience of midwifery, pædiatrics, and

general medicine. As a rule, house-officers to special departments should first do a general post at their parent hospital or elsewhere. All house appointments should carry a salary of at least £2 per week, in addition to board, lodging, and laundry. Steps should be taken to improve the physical condition under which the resident medical staff live in many hospitals.

166. The next step beyond the house appointment should be the registrar or alternatively, the assistant at a health centre. These posts should carry with them a real living wage, if non-resident, of at least £450 to £500 a year.

167. The next step, that of RMO or RSO at a key hospital or medical centre or of chief assistant in a special subject at a key hospital, should be a post of considerable responsibility. If resident, its salary should be no lower than that of registrar. If non-resident, the salary should be £600 to £800 a year. From persons occupying these posts, the senior staff would as a rule be selected. There is much to be said for a rigid rule that no senior should be appointed who had not at least 6 months' or a year's experience as an assistant at a health centre.

XVI. The Social Doctor

168. One of the defects of the British health services in the past has been the great gulf fixed between the curative services on the one hand (the home doctors and the hospitals) and the preventive on the other (the medical officer of health, the various health maintaining clinics, and the environmental services). The gulf was not lessened by the entry of the MOH into a partly proprietorial relationship with the municipal hospitals. The successful MOH often suffers in much the same way as the senior medical officer of a municipal hospital; as he goes up the ladder, he gets further away from practical medicine becoming more and more a pure administrator. Another defect of our piecemeal system is the overlapping of functions of county and other MOHs, particularly in rural areas. Rural areas also suffer from the part-time MOH, a home doctor who combines his general practice with local authority work.

169. We propose that the MOH, hereinafter called the social physician, for each area should operate from an office located in the medical centre. His area of operation should be roughly that covered by the health centres working to the medical centre. He will act as health adviser to all local authorities working within this area, and as adviser on environmental problems to all home doctors in the area.

170. His field of work will be the health of his community as a whole, and especially the environmental factors concerned in health and disease.

171. His first duty should be the organisation and maintenance of vital statistics and a medical intelligence service. He should take over the function of the registrar, and should receive all notifications of births, marriages, and deaths. This would avoid the unnecessary duplication of the present system. In the case of doubtful death certificates, he would be in a position to clear the matter up with the notifying doctor. He should receive notification of all infectious diseases; under him, a small team of social workers should be available for home visiting in connexion with infectious diseases. The local hospital records should be in his charge, as also should the records of all the health centres in his area. To deal with this material, he would need a trained statistical officer and a small statistical staff. He should also have mechanical calculating machinery, so that all statistics could be transferred to punched cards, and sorted mechanically when necessary. His weekly vital statistics should not only be forwarded to his regional headquarters and to the Ministry of Health, but also to every home doctor in his area.

172. His second duty should be the organisation of prophylactic health services. Immunisation services he will operate through the health centres. Maternity, child-welfare, school medical services, and factory medical services, he will operate similarly. It will be his responsibility to see that the community is properly served in these respects. If necessary it will be his duty to advise the establishment of new health centres.

173. His present duties with regard to food and drugs, sewage and water-supply, housing and sanitation, should be unchanged.

174. His conditions of service should be identical with those of senior officers at key hospitals. His primary employer should be the regional office of the national health corporation. His position vis-à-vis his local authorities would thus be greatly strengthened. The social physician working at a key hospital would cover only the area drained by the key hospital in its function as a local hospital. In teaching key hospitals, he might well also occupy the position of professor of social medicine.

175. In each region or subregion, a regional social physician should act as regional coördinator. He should, however, be equal with his peripheral colleagues and not above them.

176. Social physicians should be appointed in the same way as other specialists and consultants.

XVII. Postscript

177. During the 18 months since MEDICAL PLANNING RESEARCH was launched there have been great changes, and many of the 400 members, particularly those in the Forces, have found difficulty in making the contribution they hoped; none the less more than 200 drafts have been received. Those dealing with the general aspects of the subject have been used in preparing this report. It should be understood that it is an interim report, necessarily much shorter than the original contributions which have gone to make it. It cannot be held to represent the point of view of all the contributors; the aim has been to select the more constructive proposals and those most calculated to attract constructive criticism. It is in fact designed to test public opinion. This phase was envisaged in the original scheme, in which critical as well as drafting members were enrolled. Individual members' drafts were not written for publication, they were intended for private circulation to other critical and drafting members, but the size of the scheme and the large number of members who are now in the Services abroad has made private circulation virtually impossible. Since the contributions were not intended for publication and many contributions diverge in opinion it has been thought best not to publish the names of the contributors, among whom will probably be the most vigorous critics of the interim report. It is hoped that MEDICAL PLANNING RESEARCH is a medium by which doctors and others serving in the Forces can contribute to the discussion of postwar health services. Medical opinion is on the move, and no desire to suspend judgment can alter this fact. It is important, therefore, that men in the Services should make their contribution now; the anonymity of MEDICAL PLANNING RESEARCH may make it possible for them to do so without conflicting with Service regulations.

REFERENCES

1. Charles, E. in Hogben's Political Arithmetic. London, 1938, p. 73.
2. Report of the Royal Commission on the Distribution of the Industrial Population. H.M. Stationery Office. 1940.
3. Glass, D. V. in Hogben's Political Arithmetic, p. 161.
4. White Paper, Cmd. 6347. H.M. Stationery Office. 1941.
5. The *Times*, March 28, 1942.
6. Tout, H. The Standard of Living in Bristol. Bristol, 1938.
7. PEP Broadsheet No. 190. July 14, 1942.
8. *Minist. Lab. Gaz.* December, 1940, p. 300; January, 1941, p. 7.
9. Tout, H. The Standard of Living in Bristol.
10. *Rep. Minist. Hlth, Lond.* 1938–39, p. 263.
11. PEP Broadsheet, No. 190, July 14, 1942.

For **RELIABILITY** *in Surgical and Orthopædic Appliances*

SEND YOUR PATIENTS TO

ALLEN & HANBURYS LTD
48, WIGMORE ST., LONDON, W.1
TELEPHONE: WELBECK 3905 (4 lines)
TELEGRAMS: ORTHOPEDIC, WESDO, LONDON

Ample Supplies OF A & H Heat Sterilized SURGICAL CATGUT SUTURES

As the result of the restriction in the importation of Surgical Catgut of foreign manufacture, supplies of certain brands are no longer obtainable.

We wish to inform all concerned that there are ample supplies of A. & H. Catgut available.

Prices and discounts have always been strictly competitive, and we should be pleased to forward an illustrated price list upon the receipt of 1d.

The product complies with the Therapeutic Substances Regulations 1931/37. The entire product is manufactured in England.

MINISTRY OF HEALTH
LICENCE No. 6 B.

ALLEN & HANBURYS LTD., LONDON, E.2
Manufacturers of Surgical Instruments and Appliances, Sterilized Surgical Sutures, Hospital Furniture, and Electro-Medical Apparatus.
SHOWROOMS: 48, WIGMORE STREET, LONDON, W.1

HEART MUSCLE

"Theophylline ethylenediamine increased the cardiac output." STEWART and JACK: Am. Heart J.: 20,205, 1940.

"... Heart muscle is most intolerant of lactic acid accumulation. When deprived of oxygen it ceases to contract almost immediately ... It has been shown that the immediate response to lack of oxygen of the heart in a mammalian heart-lung preparation is an enormous increase in the coronary flow ..." "The Metabolism of Living Tissues." HOLMES.

"There is abundant experimental proof that the xanthines are potent vasodilators of the coronary arteries and... cause an increase in the volume of the coronary blood flow." LE ROY: J.A.M.A.: 116, 931.

Cardophylin

(theophylline-ethylenediamine)

CARDOPHYLIN is indicated in the treatment of MYOCARDIAL DEGENERATION, ANGINA PECTORIS, CHEYNE-STOKES BREATHING, ARTERIO-SCLEROSIS, CARDIAC and BRONCHIAL ASTHMA, OEDEMA, and allied conditions.

IN TABLETS, AMPOULES and SUPPOSITORIES.

...promotes the dilatation of the coronary arteries, increases the output of fully oxygenated blood and has a definite stimulating action on the respiratory centre. It is a powerful diuretic and has no toxic or cumulative effects. In pathological states involving functional disturbances leading to disease, Cardophylin is a useful agent in compensating for deficiencies in natural activities.

LITERATURE AND SAMPLES ON REQUEST.

Manufactured by
WHIFFIN & SONS, LTD., CARNWATH ROAD, FULHAM, LONDON, S.W.6. **Tel.: Fulham 0037.**

A *Natural* TONIC WINE that may be prescribed with every confidence

IN FLAGONS & ½ FLAGONS

A flagon equals a bottle and a half

Also in BOTTLES & ½ BOTTLES

Because of its freedom from drugs, Tintara may be prescribed with every confidence in all cases where a Tonic Wine is indicated. Tintara is an Australian Burgundy of exceptionally robust character, produced on ferruginous soil. It is a well-balanced wine of minimum acidity. It contains no added alcohol, no sugar. It is a pure natural product from the Empire's most famous vineyards.

BURGOYNE'S TINTARA

pure TONIC BURGUNDY

P. B. BURGOYNE & CO., LTD.
DOWGATE HILL, LONDON, E.C.4
Telephone CITy 1616

THE LANCET

LONDON: SATURDAY, NOVEMBER 21, 1942

"THE END OF THE BEGINNING"

EVEN before the war, there were voices crying in the wilderness that all was not well with the medical services. The burden of their cries was that preventable diseases were not being prevented; that the chances of avoiding death in infancy, in childbirth, from tuberculosis, and from rheumatic carditis were much greater among the rich than among the poor; that for most of the population such financial burdens were added to the burdens of ill health as to discourage early treatment; that the standards of treatment available in different places and institutions, and among different social classes, varied enormously; and that the income of those who cared for the sick ranged from the £40 plus keep and laundry paid to the probationer nurse to the £40,000 earned by the successful surgeon. The whole picture was thrown into clear perspective not by a medical body but by a research organisation composed of sociologists, economists, and political scientists—in the PEP report of 1937 on the British Health Services. The next milestone was the Government's noble miscalculation of the probable effects of enemy aerial bombardment. From this sprang the first attempt at a national hospital service for the sick and injured. The EMS was, and still is, a hotchpotch; but it has served its purpose, and has opened the eyes of many —among others, those of our special commissioner, whose plan for British hospitals filled our correspondence columns during the autumn and winter of 1939. Now, after nearly three years, we find the British Medical Association voting for a national medical corporation on just such lines as those which our special commissioner envisaged. But that is jumping ahead.

The lull in the fighting during the first winter of the war turned many people's minds away from the stalemate fronts to the future. Looking back over the 1920's and 1930's was not a pleasant process for those with social consciences. Few people really wanted to go back to the old ways. But what was the right path to choose for the future? The British Medical Association took the bull by the horns and set up a monster Medical Planning Commission. There were many voices raised to deplore its procedure and composition; but time proved their fears unfounded. The BMA were not alone. There were rumours of Royal College planning committees, students' planning committees, political planning committees and numerous discussion groups. Many of these have foundered by the way, but this week we publish the results of one which has carried through the first part of its ambitious programme. Medical Planning Research is not a LANCET sponsored body. It is not a counterblast to the BMA Medical Planning Commission. Its first aim, as set out in the medical press on its foundation, was to enable the "under 45's" to have their say, and special arrangements were made to overcome the war-time problems of geographical dispersal and inadequate transport. But it was something more than a junior version of the Medical Planning Commission, as its report shows. It took the patient as its starting-point, and not merely the patient in the surgery but the patient in his home. It pledged itself to proceed by scientific methods. Its attempt to analyse the problems of administration is something new in medical research. It studies also the cost of health in relation to the national income and the national standard of living. And it suggests a solution to the question of the future of the medical officer of health.

The political parties have not been idle in medical planning, though so far the Conservatives have remained silent. The Liberals have expressed themselves in 80 small pages.[1] They adopt the health centre as the basis for general practice, a continuation of dual control of hospitals with state subsidies paid via the local authorities to the voluntary hospitals, and free treatment for all paid for out of general taxation. The capitation fee is to be the basis of the GP's income, but private practice for both GPs and specialists is to continue. Why anyone should pay for what he is entitled to receive free is not explained, for it is specifically laid down that the standards of treatment should be the same for all. The Labour Party[2] are more concerned with social security than with the details of medical practice. They look for a national medical service with salaried doctors for all, working through the local authorities. The Communists[3] have confined themselves to practical proposals for increasing the immediate efficiency of the health services with a view to aiding production. Finally, the Minister of Health himself[4] has assured us that the Government aims at supplying a comprehensive postwar hospital service to meet the needs of everyone, while retaining both the voluntary and the municipal services. Payment by the sick of a proportion of the cost of treatment is to remain. Mr. BROWN has so far not committed himself on the future of general practice, and it is reasonable to hope that his preliminary pronouncement on hospitals is a ballon d'essai rather than a final judgment. The wise words of Sir WILLIAM BEVERIDGE have yet to see the light of day.

There seems already to be general agreement—except in high governmental quarters—on many points: the lower and middle income groups should have available a complete medical service, covering both home and institutional treatment, which should be paid for at some time other than during sickness; group practice and health centres should be the basis for a home doctor service; and the home doctor should take over the running of more of the special clinics now in the hands of whole-time municipal officers. That looks like the end of the beginning, in the Prime Minister's happy phrase. But some major questions remain to be faced and answered. (1) Should the national health services be available to everyone regardless of income? (2) Should the services be paid for by a contributory insurance scheme, or out of general taxation? (3) Should they be based on the local authorities, on a combination of voluntary hospitals and local authorities, or on a statutory national health corporation? If

1. Health for the People. Liberal Publication Dept., 8, Gayfere Street, London, S.W.1. 1942. 1s.
2. The Old World and the New Society. The Labour Party. Transport House, Smith Square, S.W.1. 1942. 4d.
3. Britain's Health Services. The Communist Party of Great Britain, 16, King Street, W.C.2. 1942. 6d.
4. *Hansard* for Oct. 9, 1941.

the medical profession decides in favour of a corporation (and so far the BMA Commission and Medical Planning Research provide pointers in that direction), there is a tough fight ahead. The local authorities exert much parliamentary influence, and the voluntary hospitals have many spokesmen in high places. In resolving these difficult questions, the observations of Medical Planning Research on the burden of ill health in the upper income groups, on taxation *v.* insurance, and on medical organisation and administration will repay careful study.

NIGHT VISION AND THE PILOT

ALL eyes are blind in true darkness, but there is always some light in the wide spaces above us, even in the worst weather, and under optimum weather conditions the human eye can see a dark object in the night sky 1000 feet to 3 miles or more away. Individual ability to see in the semi-dark varies greatly, and while this was merely interesting in peace-time it has now become of vital importance that those men with good night vision should be singled out from the rest. Fortunately, we have had at the head of the eye department of the RAF a man who foresaw this development.

"Dark-adaptation" is too narrow a concept to embrace those qualities which are required in a successful night pilot, for many factors are involved, and the whole is best summed up in the term "night visual capacity." In semi-darkness the rods take over from the cones and the area of maximum sensitivity of the eye then lies not at the fovea but 6° from it—just to one side of the object looked at. If the rod mechanism is to work smoothly the pilot must be in good health and not fatigued. There should be no anoxia such as might result from high altitudes or over-smoking, and no vitamin deficiency, though there are few young men in this country so lacking in vitamin A that their night vision suffers thereby. If all these requirements are present, dark-adaptation will have reached a near maximum after 45 minutes in a darkened room and night visual acuity will then be at its best. But more is required of the good night pilot than complete dark-adaptation. Although much night flying is done by instruments these must be supplemented by vision in approaching and landing. For the night fighter pilot time is short, and friend must be differentiated from foe. He will require that mental alertness and extra analytical power that will appreciate the form and significance of a dimly seen object the fraction of a second before the other man. Is there any test which will single out such a man from his fellows? As long ago as 1935 LIVINGSTON devised the rotating hexagon, an instrument by which the night visual capacity of potential airmen could be estimated under something like service conditions. The background illumination of this test was carefully controlled and could be varied to approximate to a starlit night at one end of the scale, passing up through bright moonlight to early dusk or dawn conditions. As anyone will agree who has spent much time testing vision, each test is something more than an estimate of visual acuity, and the alert brain will usually manage to read an extra line. Candidates for the hexagon test—so called because six panels of a hexagon are simultaneously illuminated and six candidates examined at once—wear dark goggles in a lighted room for half an hour and then enter the darkened test-room, where they sit for a further 15 minutes while the test is explained to them in the following words, quoted from LIVINGSTON.[1]

"You are each seated in front of a panel, which will be illuminated and will reveal certain objects and letters, similar in character to those which you have just seen. There are four tests, each corresponding to a metal button on your boards, and each is exactly similar in technique. You will find the buttons placed in such a way that you can feel three in series, followed by a gap, and then a fourth button. You will note that each button corresponds to a transverse grooved line on the Braille card. As the buttons run down the middle of your boards, there is therefore a left and a right Braille line. Each test exposes first objects and next letters. On the left space, you will write the names of objects recognised. If you cannot do this, endeavour to copy what you see. On the right space you will set down what you can detect of the letters. These should be so drawn that the upper group is above the grooved line, and the lower group just below it. The letters may be set in abnormal positions. Copy them as you see them. . . . Each test is of one minute's exposure and test succeeds test without intermediate pause. . . . On each occasion, the illumination will be slightly increased, till you reach the third test. Between this test and the fourth you will be subjected to one minute of glare from an electric lamp suspended above the apparatus. During this time you must not look directly at the lamp, but slightly beneath it. After this you will be given your final test. The examination is then over."

Top score in this test requires 32 correct answers, but the average score is 20. About 3·5% of personnel record 30–32 marks and 2·5% less than 2 marks. Cases presented for examination that have a history of defective performance in night flying come almost invariably from the lowest group. From these tests candidates fell into two groups. In the first were those who, on being shown a dimly illuminated object, began a series of guesses until they hit the right answer. The second group waited until the clues were clear enough for them to be certain of their answer. All subjects in whom there was a suspicion of malingering returned a blank card.

For night approaching and landing the pilot needs a well-developed stereoscopic vision. At one time it was thought that the stereoscopic faculty was a birthright, that it grew to full fruition at the age of 7 years and could not thereafter be improved. This is now known to be wrong. The hold on stereoscopic vision varies greatly with individuals, and where it is defective the response to treatment is usually excellent. It is true that many efficient pilots have not this faculty, or are even one-eyed, but these men have had the disability for many years and have had time to adjust themselves to it. Certainly the difficulties of pupil pilots who cannot land their aircraft are often due to poorly developed stereoscopic vision. If a man has binocular vision he will learn to use it in estimating distance by the sense of depth it gives him and by the degree of convergence required to focus an object with both eyes. When he first takes to the air the stress of circumstances may cause his poorly developed stereoscopic vision to break down so that he becomes monocular. His distance judgment fails him when he most needs it and he becomes a danger. The man who never had stereoscopic vision will learn to make use of other aids—parallax, relative size of objects and so on—which, though less helpful, will not fail

1. Livingston, P. C. *Irish J. med. Sci.* June, 1942, p. 177.

him under stress. Many bad landers are suffering from a weakness of convergence, a condition eminently amenable to treatment, after which they experience no further difficulty. In short, an inherited, constant or stable ocular muscle weakness is unlikely to give trouble, but a recently acquired heterophoria will so confuse the accurate judgment of distance as to make safe flying improbable. In night approaching and landing, while stereoscopy is still necessary towards the finish when familiar objects are seen by the light of the flare path, the earliest phases of the approach are carried out by vertical parallax. The pilot, circling the aerodrome to which he has been brought by blind-flying instruments, sees the flare path as a large T illuminated by separate and widely spaced lights. He judges height and distance by the relative movement of these lights against each other. He next turns towards the flare path on a bearing which will take him parallel to and just wide of the vertical limb of the T. As he nears the ground the lights in the vertical limb seem to get closer together, until as he is about to touch down all of them will fuse into one. Finally he ceases to group the lights as a system, but regards each as separate elements, gaining information about his final height from objects illuminated in the vicinity of each. But something more is needed in a fast approach than the mathematical distribution of a series of lights. There must be a suggestion of background and some familiar object dimly seen, otherwise attempts at landing are almost always too high, and it is here that a good night visual capacity will help the pilot. Finally, although the rotating hexagon, depth-perception apparatus and other devices can detect those pilots who have no chance of achieving safety at night, they take little account of the two most essential qualities of all—confidence and morale. These two qualities when present in good measure can make up for a host of small defects, and therefore no test must be allowed to overstep its usefulness and become an absolute standard by which this man is accepted and the next rejected.

TAKING NOTES

In the happy days when textbooks were few and duplicators had not been invented the student was largely dependent on his lecture-notes for reading material out of school hours. But with modern facilities the medieval custom of note-taking is hard to justify. Necheles[1] of Chicago, speaking from a long experience of teaching physiology, maintains that 99% of his students used to write down what the lecturer said so arduously that they had little opportunity either to think or to grasp the significance of the subject. Few teachers (or taught) will disagree with him. After a hectic hour of illegible calligraphy the student leaves the lecture theatre with cramped fingers and confused mind, and even an evening of careful editing will not make his notes worth the time and trouble given to them. Necheles has evolved a scheme of class secretaries which has stood up well to the key-test of examination results. One or more students, depending on the size of the class, are asked to take notes of the lecture and elaborate them at home into a well-written paper. This is then corrected and amplified by Necheles who adds the appropriate references to the literature; copies are then duplicated and distributed to each member of the class at a nominal price. A different student is chosen as secretary at each lecture and the rest are asked not to take notes. At the end of a course each student thus possesses a full and carefully edited set of notes which is of real value to him, and, apart from the day or days on which he has acted as class secretary, he has been able to give his full attention to the lectures. This is an elaboration of the plea made by a peripatetic correspondent[2] for a duplicated summary of the major points to be discussed at each lecture. But unless such summaries were very full the student would probably still take notes, though not such copious ones. An alternative method would be to interleave textbooks with blank pages which the student could take to the lecture and use for jotting down an occasional sentence amplifying what was already in the textbook. This scheme would necessitate a complete programme of the lectures being available in advance. Yet another useful procedure would be to issue the class with copies of any charts or diagrams used to illustrate the lecture which were not easily accessible elsewhere. It is up to lecturers these days to support any labour-saving device of this kind which will smooth the path for the over-pressed student.

1. Necheles, H. *Science*, 1942, 96, 297.

Annotations

MEN IN CHANCERY

Our peripatetic, returned from captivity, tells of wounded prisoners left behind at Dunkirk (p. 627), of good conditions and bad, of courage and disappointment—especially that catastrophic disappointment when hopes of an exchange of prisoners failed. Prisoners in good health need extra food, books, papers, games; sick and wounded prisoners need invalid foods, and the doctors taken with them must have drugs, instruments and medical books if they are to do the best for their patients. The Red Cross and St. John Ambulance Societies have these needs in mind, and are steadily supplying them as we at home give the means. Those parcels of food are doing more than most of us had guessed; our peripatetic tells of measurable improvements in weight, vitamin-deficiency symptoms, hæmoglobin percentage and blood-pressure in our wounded prisoners after each distribution of parcels. Such a target is worth as many direct hits as possible. Donations can be sent to the societies at St. James's Palace, London, S.W.1.

A PLEA FOR A CHAIR

The Nuffield Hospitals Trust besides helping people to get into hospital is also ready to help people to stay out of hospital, and it is to this generous trait that the University of Birmingham is appealing through its vice-chancellor, with the support of its regional council, for a grant of £15,000 to provide the stipend of a professor of social medicine for the next ten years. If the money is forthcoming the university is ready to establish the new department at once, for it feels there is work urgently awaiting the chair-to-be. In a great manufacturing centre such as Birmingham many of the social problems are inevitably linked with industrial medicine and the department would probably begin by tackling these. But the wider title which has been chosen would leave scope for discerning opportunism in its development. Recent factory acts have given industrial medicine a new importance and many doctors and nurses are asking for post-graduate courses on the

2. *Lancet*, 1942, ii, 408.

subject. The present week-end lectures and short certificate courses can only be a stopgap and do not acceptably meet what will probably be an increasing and continuous demand. The university foresaw the need some years ago, perhaps too soon, for its department of industrial medicine failed—the vice-chancellor suggests mostly through lack of sustained financial backing. Its main source of income was annual contributions from industry, but Birmingham's experience suggests that these should be welcomed to supply the butter rather than to buy the bread. If the trust sees its way to make the grant the new professor will know that his department has ten years in which to find its feet and prove itself indispensable to medicine and industry in the Midlands.

ALIMENTARY HYPOGLYCÆMIA AFTER STOMACH OPERATIONS

AFTER gastrectomy and gastro-enterostomy patients often show an abnormal glucose-tolerance curve, usually said to be due to rapid gastric emptying. This curve, sometimes called the lag curve, rises higher, reaches a maximum later, falls more quickly and often falls to a lower level than the normal curve. At times during this hypoglycæmic phase symptoms are complained of. Do such hypoglycæmic symptoms arise in these patients after ordinary meals? In an investigation in which many case-histories were taken and some hundred glucose-tolerance curves plotted Evensen[1] set out to answer this question. Of 38 gastro-enterostomy patients 30%, and of 95 gastrectomy patients 15%, described hypoglycæmic symptoms during the test, compared with 6% of 50 normal controls and 8% of 50 patients suffering from non-operated ulcer. More interesting still, 36% of the gastro-enterostomy patients and 11% of the gastrectomy patients complained of hypoglycæmic symptoms after ordinary meals. The symptoms were not unlike those of mild degrees of insulin hypoglycæmia—hunger, weakness, sweating, tremors, clouded vision, palpitations, paræthesiæ and psychic disturbances in varying combinations and of varying intensity. The symptoms appeared 2–3 hours after a meal and characteristically disappeared after ingestion of more food. Nearly all the patients reported that strenuous or unaccustomed work shortly after meals predisposed to an attack. Following up this point Evensen, in agreement with some other workers, found that the glucose-tolerance curve of normal people was much lower during even mild exercise, and he concluded that the performing of work after meals may be a contributory factor to the production of hypoglycæmic symptoms in patients after stomach operations. The diagnosis of the condition presents no difficulties, once it is thought of, and the treatment is simple—rest and something to eat. Even if untreated the attacks usually pass off in 10–20 minutes.

1. Evensen, O. K. *Acta med. scand.* 1942, suppl. 126.

FIFTY CLINICAL YEARS

THE transient and incalculable human body can always spring another surprise or two on its investigators. We try to pin it down with our tests, we measure its functions more and more accurately, but it remains elusive—a whole which will not be confined to the parts so neatly docketed in laboratory and post-mortem room. At the bedside a man of quick perception and long experience may come to be a good guesser; he may be able to predict things correctly about the human body (say) seven times out of ten. He does it by relating the laboratory and X-ray findings in a given case to what he has picked up, consciously and unconsciously, about sick people during his years of practice; and this ability is what we call clinical sense. For fifty years the *Clinical Journal* has published the sort of articles which can help a man to develop this valuable quality—records of bedside observation and experience which will join the other data in the pigeon-holes of his mind and add to the fund of knowledge, remembered or forgotten, which influences his judgment when he is considering a case. The journal, which now appears every two months, can look back on a sound record. Many eminent teachers have contributed to its jubilee number; their names star the cover but we miss the name of the editor who can call so freely on this galaxy of talent. Dr. J. R. T. Conner has been the guiding spirit of the *Clinical Journal* almost from its start and the sureness of his touch has become a by-word among his fellow craftsmen.

KOILONYCHIA

SPOON nails are a classical sign in iron-deficiency anæmia, and students are taught to glance at the nails while they take the patient's pulse. Iron-deficiency anæmia is commonest in women, and spoon nails are therefore regarded as a feminine prerogative. The condition has been known for about 50 years; Croker in America used the term "spoon nails" in 1896; Heller in Germany introduced koilonychia in 1900. In 1913 Knud Faber called attention to the frequent occurrence of koilonychia in the then recently distinguished idiopathic hypochromic anæmia, and since that time it has become well-established that koilonychia is part of the syndrome of microcytic anæmia, achlorhydria and glossitis which is seen particularly in middle-aged women about the menopause and responds dramatically to adequate doses of inorganic iron. The characteristic features are described by Clarke[1] of Boston as "an everted distal edge, flat lateral margins, and a spoonlike concavity of the finger nail." This striking change has received a lot of attention, but it occurs in only about a third of anæmic patients. Women who have their hands in water a great deal, especially if alkaline washing materials are used, are said to be more liable to develop spoon nails and there is an impression that they are mainly seen in the charwoman class of patient. Milder degrees of nail change such as brittleness or flattening are much more common. That koilonychia is especially associated with iron-deficiency receives confirmation from the observation of Swedish workers,[2] who, on the basis of serum-iron determinations, detected cases of iron-deficiency without anæmia; three of their patients had koilonychia and in two the condition was cured by iron treatment. Clarke has described an unusual case of koilonychia in a man with hypochromic anæmia. A painter of 46 had a typical microcytic anæmia with achlorhydria; no evidence of lead poisoning or any other disease was found so he was given large doses of inorganic iron with excellent results and the koilonychia disappeared. Seven years later he was seen again with a recurrence of the anæmia and koilonychia. The anæmia was again typical, with a mean corpuscular hæmoglobin concentration (MCHC) of 24%, but ferrous sulphate in adequate doses did not increase the MCHC beyond 27%, nor did the koilonychia disappear. Investigation showed some free HCl in the gastric juice after histamine injection, X ray of the alimentary tract was negative, but some chronically bleeding piles were discovered; after these had been dealt with further iron treatment restored the blood picture (MCHC 33%) and the nails to normal. This case illustrates well the close relationship between koilonychia, iron-deficiency and anæmia, and reminds us that this combination does occasionally occur in the male, and when it does that thorough investigation for causes of loss of blood is always necessary.

1. Clarke, B. G. *New Engl. J. Med.* 1942, 227, 338.
2. Waldenström, J. and Hallen, L. *Acta med. scand.* 1938, suppl. 90.

THE next session of the General Medical Council will open on Tuesday, Nov. 24, at 10 AM.

In England Now

A Running Commentary by Peripatetic Correspondents

As an oxaluric myself I was very interested in the chemical confirmation in your last week's issue of my gastronomical researches. It started when I developed a horrid pain in London after the very poached egg on spinach lightly touched upon in your subsequent annotation. I had become fond of spinach while working (and eating) in Paris, and it never worried me there. So I took my pain and my problem to a colleague. He knew the answer because he too was an oxaluric subject and he avoided trouble by taking cream with his gooseberry tart. The spinach difficulty is entirely culinary. In France it is "creamed" with butter: in England it is served slightly damp. The point of all this lies in the application of the "strawberries and cream" principle to other oxalate-containing foods. Milk may be all right but rather dull. Cream and butter will do as well. Tomatoes need salad dressing (prewar). Mr. Barratt has taught us why, and the answer is simply calcium. Well, well.

* * *

The story of the wounded who came back from Dunkirk has long been known. Far less is known about their more unfortunate brothers who, in addition to being wounded, had the misfortune to be taken prisoner. At a rough estimate there must have been some seven or eight thousand of them who lived to be taken into the hands of the German medical services. They were collected and housed in hospitals, schools, barracks and public halls throughout France and Belgium. There were British wounded in Rennes, Rouen, Paris, Lille, Bethune, Hazebrouck, Brussels, Malines, Zuydcote, Bruges, Namur, Ghent, Amsterdam, Enghien and many other places. The wounded remained in occupied territory for up to eight months; the last large batch to leave for Germany were the badly wounded of the 51st Division, who left France in late February, 1941. Stories from the different groups of men gave conflicting reports regarding their condition and treatment. It was my privilege, among many other doctors, to stay behind with the wounded; and during the first six months I worked under conditions varying from very bad to good. It is unnecessary to describe the appalling conditions which had to be endured during the days just before and after capture. Shortage of water, food and shelter was, in many places, acute, and that alone may indicate what hardships the wounded had to bear. Gradually conditions improved as they were moved away from the battle areas into centres where water, food and medical treatment were obtainable. In some cases the improvement was comparatively small—many spent three or four weeks on the same filthy stretcher and lived on a diet of black bread and beans. I remember arriving at a hospital one night with a convoy of 350 badly wounded cases. There was no room in the hospital, so the stretchers were placed in gutted sheds, and the only equipment with which we were provided during the night was one small saucepan of soup and three phials of morphia.

In early July, 1940, some fifty compound fractures of the lower limbs were sent to Brussels and I had the luck to accompany them. Here, we were received into a most efficient hospital with a bungalow pavilion to ourselves. There were separate eight-bedded wards, spring beds and a good operating theatre and portable X-ray apparatus. It was staffed by fully trained Belgian nurses. The food was excellent and the medical equipment good. The immediate improvement in the morale of the patients and in the healing of their wounds was as remarkable as were the conditions themselves. Two months later I left for Malines where some two hundred British wounded were housed in dark, damp barrack rooms. The food was quite inadequate and of poor quality. The patients were pale and solemn and their wounds showed little tendency to heal. Most of the wounded throughout the occupied territories were fed on a low maintenance diet which was far from sufficient to support the proper healing of wounds. They were, therefore, dependent on their friends in the occupied territories for extra food. Thanks to the energy, ingenuity and courage of these people the goods were delivered. In most places the Germans forbade visitors or parcels to reach the British wounded, but this only stimulated the influx of the most nourishing food that could be found. A great deal is owed to the people of Northern France and Belgium who risked so much to save our wounded. Many stories of bravery and self-sacrifice could be told of women who feared nothing so long as their parcels reached the patients.

Gradually, as the war developed into a more serious affair for our opponents, those in the occupied territories were evacuated into lazarets and camps in Germany. Here, the conditions were uniformly poor. There was overcrowding and inadequate food and medical equipment. Nevertheless, the men rose to the occasion. Their morale was good. Physical training and rehabilitation classes were started and joints began to move for the first time in six months. The British Red Cross parcels began to arrive in January, 1941, and these did more than anything else in helping the wounded to get well. In one camp, charts of weight, vitamin-deficiency symptoms, haemoglobin percentage and blood-pressures were kept before and after each parcel distribution. The results showed an astounding improvement at first followed by a steady improvement as other parcels arrived. Artificial limbs were made by our own men out of pieces of wood, plaster-of-paris, jam tins and other odds and ends. One noted firm known as Cook, Cripps and McDonald, in which Cook did the plaster work, Cripps the metal and McDonald the wood-work, made over a hundred artificial limbs. These were tough enough to allow the amputees to box or play football and basket ball.

In September, 1941, the Repatriation Scheme suddenly raised its fair head over the horizon, and all those—some 1400—who had passed the Mixed Medical Commission were collected together for going home. The centre rendezvous was a small village, and here the wounded spent three days and nights in an open field. Two long and well-equipped trains eventually arrived and a journey, which must have been one of the happiest ever, began. Each man was issued with a whole Red Cross parcel for two days, which was far more than enough. When the trains entered Belgium and later France the tracks were lined with crowds of people waving and giving the "thumbs up" and victory sign. Our men had not forgotten them. Now it was their turn to give to those who had helped them before. They threw the contents of their parcels into the crowds. This continued throughout Belgium and France. Handkerchiefs waved, kisses were blown and eyes were moist as the people stood three and four deep to watch the "Tommies" go past. Needless to say, everyone arrived in Rouen with empty haversacks and smiling faces. They eagerly searched for the signs of a boat but there were none. As days passed and no boat appeared, faces grew longer and longer. Eventually the truth was obvious, the disappointment colossal and once again our men had to swallow hard, pull in their belt, hitch up their wooden legs and say "C'est la guerre." During last December and February they left Rouen for Germany and Poland and once again said "Au revoir" to their friends in the occupied territories, but their spirit was fine and will last to the end.

* * *

He was old and very Scots; a neat and tidy figure in his Sunday clothes. The job he was after was that of a labourer in a Service establishment. He was somewhat unsteady in his walk and had a slight asymmetry of the features. He sat down and declared that he was in excellent health and very anxious to begin steady employment again. His systolic pressure was so high that my sphygmomanometer failed to register it, he had arteries like twigs, his eyesight was poor, and there was some weakness and wasting of his left arm and leg. Inquiry elicited the fact that he had suffered "a wee bit stroke" about eighteen months previously, but though it had taken a long time and a deal of perseverance he now felt as good as ever. His own doctor had warned him of his danger at the time of the stroke, but in spite of this, and even though he received an adequate pension, his conscience worried him whenever he heard of the shortage of labour and so he thought he had better work. His failing eyesight and inability to do fine work with his left hand prevented him from continuing in his former skilled occupation, and so labouring seemed to him his obvious vocation. A breath of fresh air, this, after the tales one hears about young adults claiming exemption from fire-watching and night shifts on flimsy pretexts.

Letters to the Editor

THE CHRISTMAS GIFT

SIR,—It is always with a feeling of hesitation, perhaps of fear, that I address this letter to you at this time of the year; hesitation and fear lest I should fail to state the cause effectively to your readers. But in my 25th year of office as president of the Royal Medical Benevolent Fund and as an old man myself, may I once more appeal on behalf of old doctors and their loved ones that the Christmas Gifts fund be continued in 1942. A gift of £2 to each of our beneficiaries on Christmas Day to bring some comfort, perhaps warmth or an unaccustomed enjoyment to homes where every penny has to be considered, is my desire. Will all friends who have helped me in the past do what they can again this year, and will others come forward as contributors to take the place of those who have had to drop out.

All contributions should be addressed to the hon. treasurer, Royal Medical Benevolent Fund, 1, Balliol House, Manor Fields, London, S.W.15, and cheques should be made payable to the "Christmas Gifts Fund."

THOS. BARLOW,
President, RMBF.

CÆSAREAN SECTION AND THE CRUSH SYNDROME

SIR,—Mr. Paramore makes statements which should not go unchallenged. I have no views as to the causation of postpartum suppression of urine. This must be a rare complication "in women previously apparently well" unless an accidental hæmorrhage has occurred, and little precaution need be taken in midwifery practice to prevent it in the absence of pregnancy toxæmia or accidental hæmorrhage. Many of us however agree that there is a definite place for spinal anæsthesia in operative obstetrics, but this case can be spoiled by its injudicious use. Surely Thomas was right in deprecating spinal anæsthesia as the method of choice when antepartum hæmorrhage has brought down the blood-pressure very low—and even after transfusion. Mr. Paramore states that since 1929 he has always done the lower-segment cæsarean section. This operation was designed for cases of disproportion in labour; its application has been extended, but there are still indications for the classical operation. I did one a few months ago for a true case of locked twins and I would defy even Mr. Paramore to have delivered them by the lower segment.

I have seen very few cases suffer from shock after using a heavy spinal anæsthetic such as procaine, in the form of 'Planocaine' 5% 3 c.cm. Mr. Paramore's advice to put every patient after cæsarean section or forceps delivery under spinal anæsthesia into the Trendelenburg position is open to question. It is unnecessary and indeed negatives to some extent the virtue of the lower-segment operation which was intended to lessen the risk of infection of the peritoneal cavity and to allow of cæsarean section in cases suspect of infection. To withhold fluids as suggested and to restrict food after a cæsarean operation is unphysiological, means extra suffering for a thirsty patient, lowers resistance, invites infection and will imperil lactation. Mr. Paramore asserts that after he does a forceps delivery "no complication ensues when asepsis is assured." There must be many of us who can only hang our heads in shame to think of the occasional pyrexia, white leg, or even embolism, that some of our less fortunate patients have developed. Asepsis can never be "assured" in midwifery practice.

Carlisle. GEO. P. MILNE.

DIAGNOSIS OF BREAST TUMOURS

SIR,—An annotation in your issue of Oct. 3 (p. 402) referred to the work of Dawson and Harvey on the correlation of the macroscopic and microscopic diagnosis of mammary cancer. This paper showed that there was a high degree of accuracy of diagnosis by sight and touch in mammary cancer by the experienced surgeon and pathologist. In 111 cases where the whole breast was sent for examination following mastectomy there was only one in which an error in macro-diagnosis was made. In their commentary at the end of that paper they stated that "... rapid diagnosis by means of a frozen section or by staining the surface of an excised section of tissue adds little if any certainty in breast cases." Your annotation, however, sums up as follows: "It looks as though the surgeon should only send for microscopy those breast tumours about which he is doubtful." This is a very different matter, and it would not be in the patients' best interest if the result of Dawson and Harvey's excellent paper was to discourage surgeons from sending mastectomy specimens for microscopical examination.

The treatment of carcinoma of the breast is both a surgical and a radiotherapeutic problem. To the radiotherapist a careful microscopical examination of the mastectomy specimen is of great importance in deciding what postoperative radiotherapy is desirable. What he wants to know is not so much that the tumour, which was clearly a carcinoma macroscopically, was confirmed as such microscopically, but rather how that tumour was behaving in that particular patient, in what directions and by what paths it was spreading, whether it was probable that the whole of the cancerous tissue had been excised, or where recurrence was likely to occur. For this purpose detailed microscopical examination of tissue from the limits of the region excised, to see if invaded tissues have been cut through, is necessary. This goes far beyond a mere confirmation of a confident macroscopical diagnosis.

Far too little consideration has been given to the function of the pathologist in reporting the mode of spread and likely site of recurrence from an examination of tissues excised in the treatment of cancer. Such detailed pathological work carried out at this hospital has proved of great value in the planning of postoperative X-ray treatment. The pathologist is not merely a person who, by attaching a label to the case, allows of convenient classification, but an important member of a team which decides what treatment is required.

Royal Cancer Hospital,
Fulham Road. D. WALDRON SMITHERS.

*** We were thinking only of a short-term policy for a period of pressure on time and staff.—ED. L.

MALE NURSES

SIR,—My committee, an association run by Naval medical officers to help Sick Berth staff to find suitable employment on being discharged to pension, desire to draw attention to a source of supply of well-trained male nurses which appear to have been overlooked in the reports of the Athlone and Horder committees. Naval sick berth ratings are trained at the expense of the Admiralty, and efficiently carry out the sick nursing in Royal Naval hospitals, depôts and ships. The qualifications and Service examinations for promotion in no way fall short of the requirements for the certificate of the state-registered nurse. After at least 20 years service they retire on pension, and those who wish to make use of their training find themselves unrecognised as possessing any nursing qualifications. A letter to this effect has been sent to the Minister of Health. Many medical men at present serving as temporary Naval medical officers must have felt the advantages of having such reliable, capable and experienced sick berth ratings to assist them. These men should be given a definite status in any Nursing Act that may come into force.

J. FALCONER HALL,
Hon. Secretary, Central Council, Royal
London, N.W.6. Naval Sick Berth Staff Associations.

RSM: OBSTETRICS

SIR,—May I correct the false impression made on some of your readers by the report in THE LANCET of Oct. 13 (p. 511–512) of my contribution to the discussion on Oct. 16 at the meeting of the Section of Obstetrics and Gynæcology of the Royal Society of Medicine? Far from accepting the conclusions of the work of Ebbs and Tisdall in Toronto, I pointed out that the controls were not comparable to the subjects of the experiment and that the conclusions in regard to infantile deaths were valueless. I did not say that I thought the number of cases investigated in the research sponsored by the People's League of Health was too small, though I consider the conclusions drawn by the authors of that work are not warranted.

Harley Street, W.1. DOYNE BELL.

URETHRAL ANÆSTHESIA

SIR,—The following method of anæsthetising the male urethra for cystoscopy or instrumentation may interest urologists.

A special ball-ended needle made by Down Bros. (*Lancet*, 1938, i, 27 and 723; 1939, ii, 425) is lubricated and passed down the urethra into the prostatic segment. The anæsthetic solution preferred is injected slowly by means of a Record syringe and the needle is then withdrawn gradually while light compression is exerted on the penis to prevent regurgitation of the solution. The needle is withdrawn until the ball at the end of it lies just internal to the external meatus, where it is left acting as a most effective temporary plug. The syringe, which is left attached to the needle, is laid down in a convenient position on the table. After five minutes the urethra will be satisfactorily anæsthetised and the needle can be removed. The needle is passed with great ease and in the majority of cases the patient is hardly aware that the manœuvre has been carried out.

This procedure is also of value in facilitating the passage of a soft rubber catheter in old men with acute retention of urine, especially those on whom previous attempts at catheterisation have been made before admission to hospital and who are in a state of defensive spasm.

Romford. D. LANG STEVENSON.

ANOTHER REASON FOR NOT SNEEZING

SIR,—Dr. Theodore James's letter of Nov. 7 interested me because two years ago it occurred to me that the initial sneezes preceding a cold might be a seed-sowing property of the cold virus and not a reflex effort of the host to throw off the infection; examples in nature are many from the common burr to the thistle-down. So it would be beneficial to thwart this attempt to disseminate the virus. Since stifling these early sneezes I have been freer from fully developed colds for these two years than ever before; but I also take a large dose of bicarbonate of soda.

Park Crescent, W.1. C. B. HEALD.

EPIDIDYMITIS

SIR,—In your annotation of Oct. 24 (p. 490) the statement is made that gonorrhœa is the commonest cause of acute epididymitis. Such a view is not borne out by experience. Since the introduction of chemotherapy in the treatment of gonorrhœa, epididymitis has become much rarer, and in the pre-M&B days it was not a common complication unless too great a pressure was used while giving the urethral wash-outs. In my experience acute epididymitis occurs most commonly in non-gonococcal (e.g., *B. coli*) infections of the lower urinary tract.

St. James Hospital, S.W.12. HENRY K. VERNON.

THE AMPUTEE'S POINT OF VIEW

SIR,—I should like to offer my respectful congratulations to the woman who "when her below-knee artificial leg was fitted was delighted to see herself in the glass standing on two normal and evenly shaped legs" (*Lancet*, Oct. 10, p. 427). I underwent a through-knee amputation many years ago. Ever since I have sought, not an artificial leg that would permit me to dance as long as I liked, but one that would enable me to do my work in comfort and security. I have not found it. Here are instances of what I have found: the knee-joint of one leg has broken four times in the past ten years, and repairs during that time have cost me £22 10*s*. In the same period repairs to another leg have cost me £6. One expensive leg fitted so badly that if I walked two miles on it the stump got raw. My experience justifies my saying that an artificial leg is a crude, nerve-racking contraption, costly to buy and costly to maintain.

LRCPI.

ROYAL SANITARY INSTITUTE.—Lieut.-Colonel D. J. Anthony, MRCVS, will deliver the Benjamin Ward Richardson lecture at the institute, 90, Buckingham Palace Road, London, S.W.1, on Wednesday, Nov. 25, at 2.30 PM. He will speak on the state of meat inspection in Britain at war.

Parliament

ON THE FLOOR OF THE HOUSE

MEDICUS M P

WE had two King's Speeches last week, one proroguing Parliament on one day and a second opening a new session on the next day. The speech proroguing Parliament, which was read by the Lord Chancellor, dealt to the extent of six columns of Hansard almost entirely with the history of military operations and political arrangements between the Allies; the speech delivered by the King when opening Parliament was shorter, but opened up the larger political aspects of the world struggle, and will provide the opportunity for lively debates.

This year the debate on "the humble address to be presented to His Majesty" is to be thrown open for two or three weeks, and there are already a number of amendments on the order paper and there will be debates on conditions in the services, on old age and widows pensions, on pensions appeal tribunals, on equal pay for men and women, on health, and on the Atlantic Charter, as well as on the general war situation and many other special issues. Prof. A. V. Hill has sponsored the amendment on health questions which will range over a wide field from improvements in factory hygiene to immunisation against diphtheria. An answer to a Parliamentary question shows that in only two county boroughs (Birmingham and Bradford) have at least half the children under 5 been immunised.

During this debate the new regulation 33B under the Emergency Powers (Defence) General Regulations (see THE LANCET, Nov. 14, p. 589) aimed at the control of venereal disease will be debated, probably with approval for the most part. The procedure safeguards the medical practitioners concerned against action for defamation or breach of professional secrecy, and in view of the increase in venereal disease, especially syphilis, since the war began, it is not expected that any important section of opinion will object to the far-reaching powers conferred by the regulation; with the information thus obtained about the distribution of venereal diseases it should be possible to arouse the public conscience by well-directed propaganda on public health lines. And here we can learn something from the Soviet Union, whose hygiene propaganda against syphilis and gonorrhœa has been as realistic as our own against diphtheria.

The victories in Egypt and Libya and the successful developments in North Africa have produced in the House a more buoyant mood, but one in which political controversy is not likely to be entirely absent. Sir Stafford Cripps has made it clear that "controversial legislation" should be avoided, but it is by no means certain that the House will agree. It is felt that the preparations for victory having taken so long the preparations for a successful peace may also be lengthy. More and more about the preparations for a successful peace and the firm foundations of reconstruction will be heard in the House and, as time goes on, more about health, education and the social services, and the Beveridge report on all-in social security proposals.

QUESTION TIME

Health of British in Hong-Kong

Mr. R. K. LAW, under secretary for foreign affairs, informed Sir JOHN WARDLAW-MILNE that from reliable first-hand evidence which had recently become available, it was apparent that conditions at the Stanley Internment Camp in Hong-Kong had considerably improved since the early days. At the end of July the general health situation could be regarded as satisfactory. There had been no major epidemics in the camp, though there had previously been some cases of a mild form of dysentery. There had, too, been some cases of beri-beri, which were being treated as well as possible in the absence of suitable drugs. Medical supplies in general were running short and the International Red Cross Committee were doing their utmost to ship them to Hong-Kong. There had been very few deaths in the camp and those that had occurred were due generally to organic diseases. During July a medical examination had been made by a British doctor of all persons in the camp with results which showed a

great improvement in health since May, when the conditions were at their worst. There had been two medical surveys of the children in the camp. The first survey in April/May had given an unsatisfactory result. The second, in July, showed a great improvement, thanks to the successful efforts of the camp welfare committee in procuring food, including milk, to supplement the children's rations. Food was quite inadequate at first, but there had been a marked improvement from May onwards, when flour was given in substitution of part of the rice rations. A canteen has been functioning where cereals, tinned meat and fish, dried fruits, tea, coffee, cocoa, jam and powdered milk could be obtained in limited quantities. Although the extremely bad conditions which prevailed at first had been confirmed, it was clear that there had been a marked improvement since May, particularly as regards food and health. The recent arrival of 1000 tons of supplies, including clothing, should result in a further improvement.

Air Ambulances in the Middle East

In answer to a question Sir ARCHIBALD SINCLAIR stated that in the Middle East, as in other theatres of operations, the evacuation of wounded or sick by air from the battle areas is undertaken by the Royal Air Force. Specially fitted transport aircraft are normally used for the purpose.

Tuberculous Nurses

Mr. J. H. WOOTTON-DAVIES asked the Minister of Health (1) whether, in view of suggestions that girls should be compelled to take up sanatorium nursing and of the effort now being made to increase the number of nurses in such sanatoria, he would investigate existing cases where nurses had contracted tuberculosis in the discharge of their duties and were now maintained either by public funds or on a sum which did not permit of adequate and proper care; and (2) what steps were taken by his department to ensure the rehabilitation of nurses who contracted tuberculosis when nursing tuberculous patients; and whether he was satisfied that sufficient financial provision was made for such a nurse to ensure adequate food and clothing and a room apart from the rest of the inmates of the house where she might be more or less segregated.—Mr. E. BROWN replied: I would in the first place call attention to the statement in the recent report of the Medical Research Council that evidence from research in other countries and expert opinion in our own suggest that the risk of contracting tuberculosis from nursing tuberculosis patients in sanatoria is no greater than that involved in general hospital nursing. A nurse in a tuberculosis institution who contracts the disease is customarily given every care and attention appropriate to her condition by the institution. Arrangements for care and after-care, directed to restoring working capacity, are an essential part of the tuberculosis service and apply to nurses as much as to any other person who has suffered from tuberculosis.

Vitamin-B_1 Content of the Wheat Berry

Sir ERNEST GRAHAM-LITTLE asked the Parliamentary Secretary to the Ministry of Food whether his attention had been directed to the claim by his chief scientific adviser that the bulk of vitamin B_1 content of the wheat berry lay, not in the germ, but in the thin skin covering it; whether his suggestion that much of the germ could with advantage be eliminated from bread, indicated any departure from the policy that national wheatmeal should contain the maximum quantity of wheat germ which, having regard to the type of milling plant, could be included; and whether he would re-affirm that specification.—Mr. W. MABANE replied: My attention has been drawn to the remarks made by the ministry's scientific adviser in his recent Harben lectures at the Royal Institute of Public Health which included reference to a recent discovery that a large proportion of the vitamin B_1 of wheat germ is contained in the scutellum which forms part of the structure of the germ itself. There is no intention at present to modify the existing instructions to millers regarding the manufacture of national flour.

Messrs. PHARMACEUTICAL SPECIALITIES (May & Baker) inform us that their product 'Thiazamide' and its sodium salt are now available for normal prescribing purposes. Thiazamide is marketed in tablets of 0·5 g. in containers of 25, 100 and 500; in bottles of 15 g. of the powder; and in ampoules of the sodium salt (each containing the equivalent of 1 g. sulphathiazole) in boxes of 6 and 25 ampoules.

Obituary

SIR NORMAN WALKER

MD EDIN, LLD, FRCPE

Norman Purves Walker was born at Dysart in Fife in 1862, the only son of the Rev. Dr. Norman L. Walker, for many years editor of the Free Church magazine. He went to school at the Edinburgh Academy and continued his studies at the Universities of Edinburgh, Vienna and Prague. After graduating in 1884 he spent five years in general practice at Dalston, a southern suburb of Carlisle, and here he found a wife and as hon. secretary of the Carlisle Medical Society served his apprenticeship in committee procedure. In 1890 he returned to Edinburgh and the next few years were spent in post-graduate study. Dermatology had always attracted him, for, as he was wont to emphasise, it had then only reached the stage of observation and collection of facts. Inquiry into causes began with the discoveries of bacteriology and appreciation of what is meant by idiosyncrasy. His motto was that of Job: "The cause that I knew not I searched out." In 1892 he was appointed assistant physician for diseases of the skin at the Royal Infirmary and from 1906 to 1924 he was full physician. In 1899 he published his lectures to students in the form of *An Introduction to Dermatology* which went through nine editions in 33 years. Its popularity was well deserved—concise, comprehensive, and a little dogmatic, written in simple language with apt case-notes and anecdotes and above all with ample help in treatment.

In 1906 Walker defeated William Bruce and was elected direct representative for Scotland on the General Medical Council, and here he found and grasped perhaps his most important opportunity for public service. "No one could truly judge Sir Norman Walker's merits," writes H. L. E., "who did not see his routine work for the General Medical Council from day to day and week to week, both as chairman of business for many years and for eight years as president. His knowledge of the affairs and traditions of the council was encyclopædic. He knew the minutes from end to end and could give advice or a decision on any problem on the lines of the Common Law of England, that is, on the accumulated decisions of the past. His retentive memory, his attention to detail and his appreciation of the work done for him by the administrative staff were virtues which, combined, are rare in those in authority. His notes on memoranda submitted to him were always clear, commonsense and perspicuous; for his successors a mine of wisdom and wise precedent. On the personal side he earned the affection of his colleagues by his kindness and by the welcome he bestowed on every rather apprehensive newcomer to the council. In his judicial capacity as president, he had all the accumulated experience of his distinguished predecessor Sir Donald MacAlister, imparted to the council with the velvet glove rather than with the iron hand with which they had been ruled for the previous twenty-seven years. Moreover, only those who were intimately acquainted with both could fully appreciate the self-denying care and assistance which Sir Norman rendered, both in business and in life, to Sir Donald MacAlister in his later years when his powers were beginning to fail. In his own life he was handicapped physically in later years by illness, but nevertheless he would not give in and his attention to duty and to his ideals of conduct never flagged. The medical profession of the United Kingdom has lost a good friend, a just judge and a devoted servant."

During the last war Sir Norman acted as convenor of the Scottish Medical Service Emergency Committee and his knowledge of affairs served him well during his years as editor of the *Scottish Medical and Surgical Journal* and of the *Edinburgh Medical Journal*. His work at the university and as a member of the committee of management of the Scottish Conjoint Board had given him insight into the problems of the curriculum, and in 1922 he visited the United States and India to report on the state of medical education in those countries. On his return in the following year he was knighted. From 1929 to 1931 he was president of the Royal College of Physicians of Edinburgh.

Sir Norman, who died on Nov. 7, at his home in Balerno, was in his eighty-first year. He married Miss

Annie Thrimble in 1887 and they had three sons and a daughter. Their second son, Dr. E. R. C. Walker of Aberdeen, is now a prisoner of war.

STANLEY WALTER PRATT

M B LOND ; SURGEON LIEUTENANT R N V R

Surgeon Lieutenant S. W. Pratt, who was reported "missing presumed killed," after the loss of HMS *Dorsetshire*, in the Bay of Biscay last April, graduated from University College Hospital in 1936. A fellow student writes: "Stanley Pratt worked with enthusiasm and energy, being specially interested in surgery and obstetrics, and he also took a great interest in the social and sporting activities of the college and hospital. He played rugby regularly and also a good deal of lawn tennis and squash. He was an understanding and sympathetic companion, and his sense of humour was combined with an acute perception which made his friendship valuable." After qualifying Pratt held house-appointments at his own hospital and at Leicester Royal Infirmary. He joined the RNVR in May, 1940.

WALTER TYRRELL BROOKS

M A OXFD, M B LOND

IT is now some years since Dr. Walter Brooks retired and slipped quietly away from Oxford with his best work unacclaimed. But he is not forgotten there and many of his friends, especially at the hospitals, when they heard of his death at Swanage on Oct. 14 gratefully recalled a good life spent in helping the sick of yesterday, today and tomorrow. Brooks was born in London in 1859 and from King's College School he went to Christ Church, Oxford, and obtained his MA degree before returning to London to study medicine at KCH. He qualified in 1882 and a year later graduated with honours in medicine and set up in practice at Oxford. Soon afterwards he was appointed to the staff of the Radcliffe Infirmary, but his outlook always remained that of the loved and trusted family doctor rather than the hospital physician. To the children at Lynams and Radley, where he was for years school medical officer, and to the undergraduates "Brookie" was more like a friend than a doctor, and with his wide circle of friends it was no wonder that he was elected a university coroner after a contest with a doughty opponent. His administrative work left a real though unappreciated mark on the town. After the last war, during which Colonel Brooks served as officer-in-charge of the medical division of the 3rd Southern General Hospital, he was appointed administrator under the Ministry of Pensions of the Wingfield Hospital, and by his astute strategy he later secured this hospital at small cost as the permanent centre of orthopædic surgery in the district. He was also vice-chairman of the Radcliffe for some of the most important years of its history, and loyally supported Mr. Cronshaw in developing its work and in founding the Osler tuberculosis pavilion and the Sunnyside convalescent home. Brooks was a good churchman and a still better Christian gentleman.

E. M.

Dr. THOMAS STANISLAUS MCMANUS has died in Salisbury, Southern Rhodesia. Born at Cavan he graduated MB NUI from University College, Dublin, in 1928. After holding appointments at All Saints' Hospital, London, St. Mary's, Plaistow, and the Miller General Hospital, he spent some years in America before he finally settled in Salisbury in 1937, where he quickly won a reputation for medicolegal work. He leaves a widow and an infant son.

The London County Council have opened their hospitals to medical visitors to this country who are in the forces, and Service doctors or nurses from overseas who would like to visit LCC hospitals or stay there during short leave should get into touch with the Medical Officer of Health, London County Council, County Hall, S.E.1.

Notes and News

THAT INWARD EYE

THE 74,000 blind people in England and Wales are a genuinely coöperative society: the blind help the blind in ways that the old saying overlooked; and of course they have many sighted friends too. The annual report of the National Institute for the Blind tells of bombed homes here and there, of difficulties about paper, the loss of a million gramophone needles and a few other hitches incident to war; but it tells too of work maintained, difficulties overcome, postwar plans already germinating and, above all, of the cheerful and spirited confidence of the blind which is always such an eye-opener to those who can see. From the presses at the National Institute, Braille books, periodicals and music spread to the whole country and even still, though in limited quantity nowadays, to far corners of the empire. At Brighton, Moon books and periodicals—easier for old people to read than Braille—are sent not only to English blind but to those in America. Then people with a Talking Book machine can listen to books recorded on gramophone discs by first-class readers; and wireless sets are distributed to those who lack them, as well as any other personal help that is needed. The institute's school of massage stands in Great Portland Street. Sunshine Homes for blind babies are at East Grinstead and Leamington; the one at Southport was bombed, but a new one is being opened in Northumberland. At Worcester College and Chorley College blind girls and boys of promise get their chance of higher education; and there is a home in Devon for those who are backward as well as blind. There are homes for the old, holiday homes, convalescent homes, homes of recovery, and a new venture is a home where married couples of whom one partner is blind can live and work. Among the homes of recovery for war-blinded civilians, America Lodge was the gift of the Blind War Relief Society of America to the British blind. Captain Sir Beachcroft Towse, VC, chairman of the institute, is confident that friends of the blind will go on helping them; and he has a long experience to confirm him in that belief.

HOME GUARD

IT was stated in our Students' Guide (*Lancet*, Aug. 29, p. 251) that if a HG medical officer "cannot reach the aid post or hospital, or is not needed there, he is at liberty to report to his battalion headquarters, which means that he will come under the orders of the battalion commander and will in effect be mustered." We understand that this is not strictly correct. The Army Council instruction runs: "Where these civil duties permit they will keep in touch with their respective units and sub-units, rendering such service as they can." HG doctors are not, in fact, mustered in these circumstances and their prior duty is still to their civil commitment to which they may return at any time. Moreover, every HG medical officer, whether mustered or not, is eligible for disablement or pension if he suffers an injury attributable to HG service.

Royal Society of Medicine

On Monday, Nov. 23, the section of odontology will meet at 4.30 PM, to discuss the treatment of pulpless teeth. The openers are to be Mr. W. Stewart Ross, LDS, Mr. A. Bulleid, MRCS, LDS, Prof. W. E. Herbert, MRCS, LDS, and Mr. R. G. Torrens, B Dent.Sc. On Nov. 24, at 5 PM at the section of medicine, Lord Horder, Surgeon Captain Desmond Curran, Brigadier J. R. Rees, Group-Captain R. D. Gillespie and Dr. W. Fairlie will open a discussion on functional nervous states in relation to service in the Armed Forces. On Nov. 26, at 4.30 PM, the sections of urology and neurology are holding a joint meeting when Mr. F. J. F. Barrington, Mr. John Everidge, Mr. Clifford Morson and Brigadier George Riddoch are to speak on treatment of the paralysed bladder. At the section of disease in children at 2.30 PM on Nov. 27, Sir Arthur Hurst, Dr. G. W. Bray, Mr. James Crooks, and Dr. C. H. Rogerson will open a discussion on asthma in childhood. At the same hour, Dr. A. H. Gale will read a paper to the section of epidemiology on variations in the mortality and incidence of the common infectious diseases in childhood over a century.

University of London

Sir Ernest Graham-Little has been reappointed chairman of the external council of the university for 1942–43.

Medical Society of London

At a meeting of this society at 11, Chandos Street, W.1, on Monday, Nov. 23, at 4 PM, Lieut.-Colonel E. G. Muir and Lieut.-Colonel A. E. Porritt will open a discussion on surgery in the Middle East.

Chadwick Lecture

Sir Arthur MacNalty will deliver the Malcolm Morris lecture on Tuesday, Nov. 24, at 2.30 PM, at the Westminster Hospital medical school, Horseferry Road, S.W.1. He will speak on the prevention of tuberculosis in peace and war.

Royal Faculty of Physicians and Surgeons of Glasgow

Prof. H. J. Seddon will deliver a John Burns lecture in the hall of the faculty, 242, St. Vincent Street, Glasgow, on Wednesday, Nov. 25, at 4 PM. He has chosen as his subject recent work on peripheral nerve injuries.

Medical Casualties

The following RAMC officers have been posted as prisoners of war:

WS/Captain Harold Bloom, MRCS; WS/Captain W. E. G. Bradford, MB LPOOL; Lieut.-Colonel W. B. F. Brennan, MB BELF; Captain L. B. Gunn, MB LOND; Captain P. L. Headon, MB NUI; and Captain L. V. Macdonald, MD ALBERTA.

Bundles for Britain

London voluntary hospitals have received £93,442 and thousands of pounds worth of equipment from Bundles for Britain. These American neighbours have now sent to this country over £170,000 in money, 17,000 cases of equipment, 25 ambulances, 120 mobile canteens and 185 blood-transfusion sets.

A Gift for Russia

The employees of Messrs. George Gill and Sons (Sheffield) Ltd., in their own time are replacing 500 Spencer Wells forceps given to Mrs. Churchill's fund and lost by enemy action.

Royal Society Medallists

The King has approved the recommendation made by the council of this society to award a royal medal to Dr. W. W. C. Topley for his work on experimental epidemiology and immunology. The Copley medal has also been awarded to Sir Robert Robinson, DSc, for his research work "which has influenced the whole field of organic chemistry"; and the Buchanan medal to Sir Wilson Jameson for his administrative service to hygienic science and practice.

British Standards Institution

This institution has been recognised by the Government as the body for the issue of national standards with the exception of those governed by the Therapeutic Substances Act and issued under the authority of the Medical Research Council and those contained in the British Pharmacopœia and the British Pharmaceutical Codex. During the last twelve months the institution has published 160 new and revised standards, bringing the total issued to 1300.

Presentation to Sir Alexander Macgregor

On Nov. 7 the staff of Glasgow public health department met to present their chief with his portrait, painted by Mr. W. O. Hutchison, ARSA. The presentation was made by Colonel William Gunn, senior assistant MOH, and Lady Macgregor also received a gift of war bonds from Dr. Nora Wattie, senior child welfare officer. In thanking his colleagues Sir Alexander said he had tried to avoid over-organising an administration that touched so closely the lives of the people. He had never enjoyed leading strings himself. The gathering was presided over by Dr. R. J. Peters, deputy MOH.

Flats for Disabled Ex-Servicemen

Since 1918 the Sir Oswald Stoll Foundation has run a block of residential flats at Fulham where disabled ex-Service men may live at a nominal rental with their families while receiving the after-care and special treatment they need. Dr. Lionel Bailey is the visiting medical officer and there is a residential nursing staff. The foundation has secured the use of a country house rent-free where some of the paralysed and helpless men have been evacuated. Medical and nursing services are also provided there. This war will increase the responsibilities of the foundation, and in their report for 1941 the council appeal for help in their work.

CORRIGENDUM.—In the article by T. L. Lawson (Oct. 24, 480) the chemical name of 'Pentamidine' should read: 4'-diamidinodiphenoxypentane.

Infectious Disease in England and Wales

WEEK ENDED NOV. 7

Notifications.—The following cases of infectious disease were notified during the week: scarlet fever, 2736; whooping-cough, 965; diphtheria, 881; paratyphoid, 6; typhoid, 6; measles (excluding rubella), 7384; pneumonia (primary or influenzal), 543; puerperal pyrexia, 140; cerebrospinal fever, 65; poliomyelitis, 18; polio-encephalitis, 1; encephalitis lethargica, 2; dysentery, 142; ophthalmia neonatorum, 76. No case of smallpox, cholera, plague or typhus fever was notified during the week.

The number of civilian and service sick in the Infectious Hospitals of the London County Council on Nov. 4 was 1734, including scarlet fever, 636; diphtheria, 254; measles, 197; whooping-cough, 156; enteritis, 74; chicken-pox, 48; erysipelas, 35; mumps, 22; poliomyelitis, 6; dysentery, 56; cerebrospinal fever, 4; puerperal sepsis, 9; enteric fever, 3.

Deaths.—In 126 great towns there were no deaths from scarlet fever, 2 (0) from enteric fevers, 10 (0) from measles, 7 (1) from whooping-cough, 16 (1) from diphtheria, 56 (4) from diarrhœa and enteritis under two years, and 19 (3) from influenza. The figures in parentheses are those for London itself.

Thurrock and Preston each reports a fatal case of an enteric fever. Sunderland had 3 deaths from diphtheria. Leeds, Liverpool and West Bromwich each had 4 fatal cases of diarrhœa.

The number of stillbirths notified during the week was 202 (corresponding to a rate of 35 per thousand total births), including 23 in London.

SMALLPOX IN SCOTLAND

By Nov. 11 sixteen cases of smallpox had been reported in the Lothians. One middle-aged man has died from the disease at Tranent. The outbreak has so far been confined to patients who have had direct connexion with the Edinburgh Royal Infirmary, or its convalescent home. The infirmary has announced that outpatients will not be treated unless they have been vaccinated recently, and inpatients must have been vaccinated within the last six months. Emergency cases will be admitted as usual but will be vaccinated as soon after admission as their condition allows.

The fact that goods made of raw materials in short supply owing to war conditions are advertised in this paper should not be taken as an indication that they are necessarily available for export.

Appointments

BECK, DIANA KINLOCH, MB LOND., FRCS: neurosurgeon to the Royal Free Hospital, London.

BERRY, N. W., MRCS: examining factory surgeon for Gosport, Hants.

COCKSHUT, R. W., MB LPOOL: examining factory surgeon for Hendon, Middlesex.

PENTREATH, E. U. H., MB LOND., DPM: medical superintendent of the Mickleover County Hospital, Derbyshire.

Colonial Medical Service.—The following appointments are announced:—

FLEMING, A. McK., MB LOND., DTM & H: MO at Kenya;
RAINSFORD, C. R. C., MD BELF., DTM: senior MO at Seychelles;
RUSHTON, E. P. K., MB BIRM.: MO at Sierra Leone.

Births, Marriages and Deaths

BIRTHS

DICK.—On Nov. 7, at Bristol, to Dr. Kathleen Dick (*née* Bates) and Major Cecil Dick, RASC—a son.

GORDON.—On Nov. 8, at Ipswich, the wife of Lieutenant C. J. Gordon, FRCS, RAMC—a daughter.

HESKETH.—On Nov. 10, at Hitchin, the wife of Dr. J. S. Hesketh—a daughter.

HUGO.—On Nov. 11, at Guildford, the wife of Lieutenant Richard Hugo, RAMC—a daughter.

NORTH.—On Nov. 11, at Southport, the wife of Surgeon Lieutenant John North, RNVR—a daughter.

PARKES.—On Nov. 5, the wife of Lieutenant P. W. Parkes, RAMC, Bale Hall, Tamworth—a daughter.

RODNEY SMITH.—On Nov. 10, in London, the wife of Mr. Rodney Smith, FRCS, RAMC—a son.

MARRIAGES

HANDLEY—GRAY.—On Nov. 12, at St. Peter's, Vere Street, Richard Sampson Handley, FRCS, major RAMC, to Joan Gray, of Newcastle-on-Tyne.

DEATHS

CHAPMAN.—On Nov. 10, at Bicester, Oxon, Herbert Frederick Chapman, MRCS, formerly of Richmond, Surrey, aged 89.

DAGGETT.—On Nov. 7, at Kirby Hill, Boroughbridge, Henry Ingledew Daggett, MB CAMB., aged 78.

FLETT.—On Nov. 13, Alexander Flett, MD ABERD., DMRE, of The Avenue, Bedford Park, W.4.

WORTHINGTON.—On Nov. 14, Helen Worthington, BA Cincinnati, LRCPE.